For Reference
Do Not Take
From the Library

Every person who maliciously cuts, defaces, breaks or injures any book, map, chart, picture, engraving, statue, coin, model, apparatus, or other work of literature, art, mechanics or object of curiosity, deposited in any public library, gallery, museum or collection is guilty of a misdemeanor.

Penal Code of California
1915, Section 623

ay

ITECTURA
RECORD

3 9042 05044081 4

AIA HONOR AWARDS

Gensler named Firm of the Year

Ricardo Legorreta strikes Gold

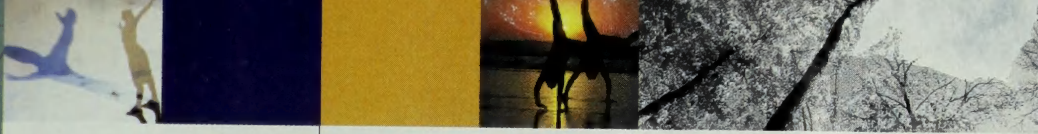
BURLINGAME
MAY 18 2000
LIBRARY

Global Preservation and the
World Monuments Fund

Ten Shades of Green

Special Section: RECORD LIGHTING

Spot the two terms that don't go together:
1. Suspended Ceiling
2. Grid-hiding Visual
Until now.



CEILING SYSTEMS

[Between us, ideas become reality.™]

Introducing Optima Vector™, the revolutionary new acoustical ceiling with virtually no visible grid.

With Optima Vector, now you can achieve a clean, nearly monolithic look in a downward access suspended ceiling. That's because the unique Vector* edge detail provides a sleek ¼" reveal that minimizes the existing grid. In fact, the larger the expanse of open plan ceiling, the more effectively the grid disappears, leaving you with a grid-hiding, upscale visual. It works with existing standard 15/16" grid systems, which makes it perfect for renovations – avoiding costly, time-consuming grid removal, replacement or repainting. And because Optima Vector is a high performance open plan ceiling, you can count on superior sound absorption, light reflectance and durability.

Suspended ceiling. Grid-hiding visual. Now together, from Armstrong.

For more information, call 1-888-CEILINGS or visit our website at www.ceilings.com

*Patent Pending

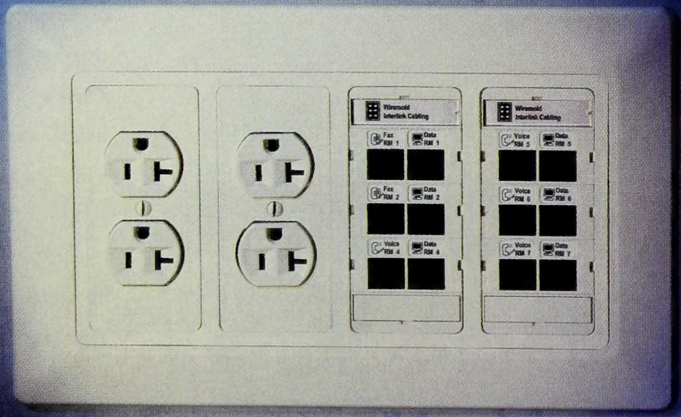
Armstrong

CIRCLE 1 ON INQUIRY CARD

Perimeter | Overhead | Infloor | Open Space | Structured Cabling

"Excuse me.

Up there at the computer. I'm sure that to you, I'm just another box in the wall. But have you ever wondered how you get all those e-mails you so casually delete? They come into the building, out of the wiring closet, through twenty seven floors, under the ceiling, around the walls, through me, and into your computer, thanks to this building's integrated power and communications infrastructure – a system that'll still be working hard and long after your retirement party. So, take me for granted – it's ok. But at least **give those e-mails the respect they deserve."**



WALLSOURCE™ MULTIPLE SERVICE BOX

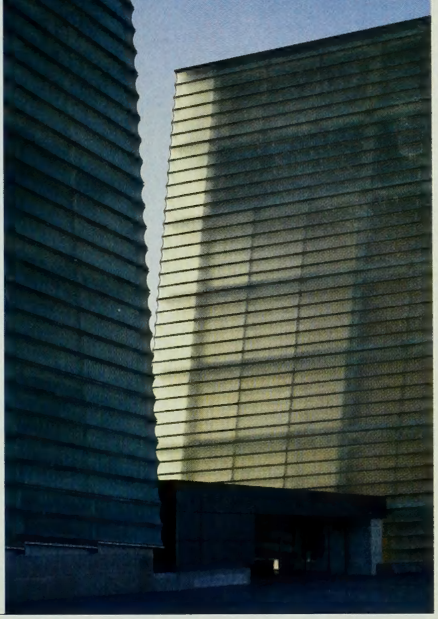
WIREMOLD®

www.wiremold.com

CIRCLE 2 ON INQUIRY CARD

ARCHITECTURAL
RECORD

05.2000



News

41 **Rem Koolhaas takes the Pritzker**

43 **New Pompidou eatery**

44 **SMWM gets Boston's "Big Dig"**

47 **Stadium boom continues**

52 **Turkey's Israel Village**

Departments

23 **Editorial: Hands-on architecture***

30 **Letters***

69 **Correspondent's File: Los Angeles** *by David Hay*

75 **Practice Matters: Architects can influence policy** *by Andy Pressman, AIA*

79 **Critique: Suburbia** *by Robert Wilson*

83 **Snapshot: Melbourne Gateway** *by Ingrid Whitehead*

432 **Profile: Camilo José Vergara***

WWW * You can find these on our Web site at www.architecturalrecord.com, your source for more information on featured projects and more.

The AIA/ARCHITECTURAL RECORD continuing-education opportunities are "What? No Air Conditioning in this Building?" [page 281]; "Analyzing Fire Risks Building by Building," [page 293]; and "Using Solid Surfacing as Exterior Wall Cladding," sponsored by Aristech Acrylics [page 306]

Cover: *Ricardo Legorreta, photographed in the offices of ARCHITECTURAL RECORD by André Souroujon*

Above: *Centro Kursaal in San Sebastián, Spain, photographed by Duccio Malagamba*

Features

93 **AIA Honor Awards Introduction***
Restorations, sustainable-growth schemes, and other beautifully built structures make up the AIA's 38 winning projects.

94 **Architecture Awards**
From Malaysia to Des Moines, fine architecture knows no bounds.

110 **Interiors Awards**
Magical interior spaces designed by the best of the best.

124 **Urban Design Awards**
Waterfront projects dominate the urban category this year.

134 **25-Year Award**
The simplicity of the Smith House, by Richard Meier, FAIA, stays fresh through the decades.

145 **Legorreta: The color of gold** *by Clifford A. Pearson and David Dillon**
The international scope of Ricardo Legorreta's work proves he's a master worthy of the AIA's highest honor.

166 **Gensler named Firm of the Year** *by Elizabeth Harrison Kubany*
Gensler is recognized as a successful model of architectural practice.

182 **World Monuments Fund** *by Mildred F. Schmertz, FAIA*
An innovative organization saves the world's architectural heritage.

198 **10 Shades of Green** *adapted from material by Peter Buchanan*
A new exhibit presents environmental sustainability as a synthesis of technology, poetics, and place.

Projects

212 **Centro Kursaal, *San Sebastián, Spain*** *by David Cohn**
José Rafael Moneo, Arquitecto

224 **Baumschulenweg Crematorium, *Germany*** *by James Russell, AIA**
Axel Schultes Architekten

232 **Taisha Bunka Place, *Taisha, Japan*** *by Naomi Pollock, AIA**
Toyo Ito & Associates

242 **Bridgemarket, *New York City*** *by Thomas Mellins**
Hardy Holzman Pfeiffer Associates and others

Contents continued on next page

05.2000

Blackbird restaurant in Chicago (top), photographed by Bob Briskey/Briskey Photography. Burj Al Arab Hotel, (bottom left), photographed by Paul Gregory. Shedd Aquarium, (bottom right), photographed by Peter Aaron/ESTO.

Building Types Study 785

253 Dining on Design *by Suzanne Stephens*
Some people choose restaurants for the food: We go for arresting settings and thoughtful solutions to unique spaces.

254 Métrazur, *New York City* *by Craig Kellogg**
Tsao and McKown Architects
A subtle new restaurant rises in the shadow of Grand Central's cosmic ceiling.

258 Blackbird, *Chicago* *by Cheryl Kent**
Thomas Schlesser
A clean and lean scheme transforms a small brick building in a fringe area west of the Loop.

262 Danube, *New York City* *by Suzanne Stephens**
Kevin C. White, AIA, and Jacques Garcia
From beef cheeks to chive spaetzle: This place brings back the design, decorating, and architectural motifs of Vienna circa 1900.

266 Avenue, *London* *by Suzanne Stephens**
Rick Mather Architects
Rick Mather emphasizes the character of a narrow, high space with a spare, white, Modernist vocabulary.

Building Science & Technology

273 Digital Architect *by Jerry Laiserin, FAIA**
The design implications of computer technology.

277 Tech Briefs *by Wendy Talarico*
Engineering feats, brownfield news, and more.

281 What? No Air Conditioning in this Building? *by Nadiv Malin**
The ups and downs of natural ventilation.

293 Analyzing Fire Risks by Building *by Brian J. Meacham**
Performance-based fire protection lets architects focus on specific design objectives, instead of generic codes.

Lighting

315 Introduction

317 Creative Uses

320 Burj Al Arab/Jumeirah Beach Resort *by Nayana Currimbhoy**
Automated color washes animate a new hotel in Dubai.

323 Sony Theatres at Metreon *by William Weathersby, Jr.**
Lighting effects cue nostalgia and enhance appeal at a multiplex cinema.

333 Shedd Aquarium *by Nayana Currimbhoy**
A light show in the restored rotunda takes visitors on a journey.

337 Schuylkill River Bridge Lighting *by Nayana Currimbhoy**
Grenald Waldron Associates brightens seven Philadelphia bridges.

345 Warren Hall, Columbia University *by William Weathersby, Jr.**
Lighting enhances the profile and function of a campus building.

349 Trade Show Review Light + Building Show *by Charles Linn, AIA*

351 Lighting Technology Soft-Start Ballasts Meet Thick-Phosphor Lamps *by Lindsay Audin*

355 Lighting Resources

Products

367 Solid Surfacing Products

375 Product Briefs

388 Product Literature

408 AIA/CES Education Self-Report Form*

416 Manufacturers' Spotlight

60 What's new on: architecturalrecord.com

412 Reader Service Card*

427 Classified Advertising*

397 Dates & Events*

ONE PROJECT

THREE CEILINGS

SIX SOLUTIONS:

- Affordable
- Acoustical
- Accessible
- Size Options
- Flat or Curving
- Luminous (optional)

American Airlines
Los Angeles
International Airport
Architect: Rivers & Christian

For information, literature
and samples call:
Ceilings Plus
Los Angeles, California
800-822-3411 phone
323-724-8249 fax
www.ceilingsplus.com
ceilingsp@aol.com
ceilingsplus@earthlink.net

CEILINGS PLUS

CIRCLE 3 ON INQUIRY CARD

Granted, staying out in the sun too long isn't usually a sign of intelligence. Unless you're the product of some of the brightest minds in the industry.

Actually, this Fi-Rok® Gypsum Board has so much intelligence built in, it could easily handle a lot worse conditions than this. We should know.

Before bestowing our "100% Intelligent" seal upon it, we crank up the heat to as much as 2,000°F to test it for UL fire-resistance. So at 120°F, this board's just chilling out.

See that smooth surface? Those uniform tapers? Those straight edges? Rest assured, they didn't get that way by accident.

We've poured over 75 years of knowledge into rfecting the board-making process.

As a result, Celotex boards have consistent high ge-hardness and stand uniformly flat with shadows. We've even given them a gh-strength core to make sure they don't crack or crumble under pressure.

To learn more, check out our learning center, Celotex Tech at www.celotex.com. Or call 1-800-CELOTEX.

We'll show you a full line of gypsum boards so easy to work with, they could very well keep you from losing your cool.

Celotex

Build On Our Knowledge™

CIRCLE 4 ON INQUIRY CARD

Shelter is easy. Exhilaration is not.

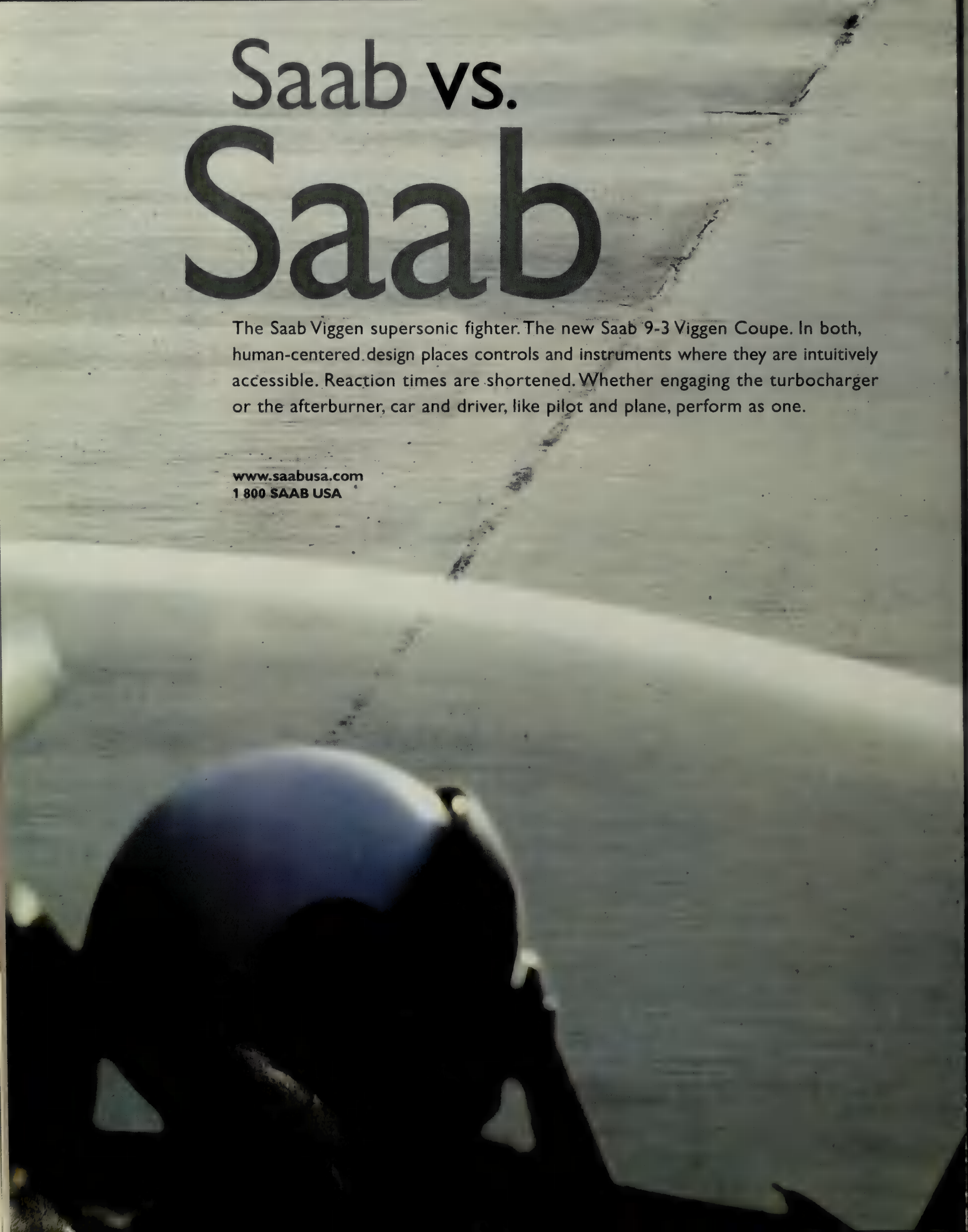
This is your calling. To create an intriguing space. At your mercy are long-lasting windows that go far beyond wood and glass. E

©2000 Weather Shield Mfg., Inc.

Weather Shield
Windows & Doors

CIRCLE 5 ON INQUIRY CARD

uilt to your specs to create a refuge that livens things up. Call 1-800-477-6808 x2337 or visit us at weathershield.com See the light.™



Saab vs. Saab

The Saab Viggen supersonic fighter. The new Saab 9-3 Viggen Coupe. In both, human-centered design places controls and instruments where they are intuitively accessible. Reaction times are shortened. Whether engaging the turbocharger or the afterburner, car and driver, like pilot and plane, perform as one.

www.saabusa.com
1 800 SAAB USA

Saab automobiles and Saab aircraft are now manufactured by two separate, unrelated corporate entities. © 2000 SAAB CARS USA, INC.

CIRCLE 6 ON INQUIRY CARD

40 STORY DREAM
600 BOARD FEET OF FAXES
4000 CUBIC YARDS OF MEETINGS
EXPANDING SCHEDULE
SHRINKING BUDGET

NEED HELP BUILDING WHAT YOU DESIGNED IN THE FIRST PLACE?

buzzsaw.com™
an Autodesk® venture

Soon to be your favorite design tool: a secure project website that helps turn plans into buildings. A central workplace that links your designs directly to the construction team. From design to bidding to buying and overall construction administration. It's all in a day's work for Buzzsaw.com.

ARCHITECTURAL
RECORD

EDITOR IN CHIEF	Robert Ivy, FAIA
MANAGING EDITOR	Ingrid Whitehead
DESIGN DIRECTOR	Anna Egger-Schlesinger
SENIOR EDITORS	Charles Linn, AIA Clifford Pearson Wendy Talarico Sarah Amelar
NEWS EDITOR	Soren Larson
PRACTICE EDITOR	Elizabeth Harrison Kubany
PRODUCTS EDITOR	Rita F. Catinella
COPY EDITORS	Elizabeth Kugler, Lisa Rosman
DESIGN ASSISTANT	Clara Huang
PRODUCTION COORDINATOR	Juan Ramos
EDITOR AT LARGE	James S. Russell, AIA
SPECIAL CORRESPONDENT	Suzanne Stephens
ILLUSTRATORS	Muriel Cuttrell, Kira Eng, I-Ni Chen
CONTRIBUTING EDITORS	Robert Campbell, FAIA, Andrea Oppenheimer Dean, David Dillon, Beth Dunlop, Blair Kamin, Jerry Laiserin, FAIA, Nancy Levinson, Lee Mitgang, Robert Murray, B. J. Novitski, Sheri Olson, AIA, Nancy Solomon, Michael Sorkin, Tom Vonier, AIA
INTERNATIONAL CORRESPONDENTS	David Cohn, Claire Downey, Tracy Metz, Naomi R. Pollock, AIA
SPECIAL PROJECTS	Charles Pinyan, Paul Herrmannsfeldt
RESEARCH DIRECTOR	John Conkling
DIRECTOR OF PROMOTION	Deborah Smikle-Davis
FINANCE	Michael Florek, Shlomo Messinger
CIRCULATION	Maurice Persiani, Brian McGann
ADVERTISING PRODUCTION MANAGER	Stephen R. Weiss
ADVERTISING DIRECTOR	David Johnson
VICE PRESIDENT/PUBLISHER	Elaine Shusterman

EDITORIAL OFFICES: 212/904-2594 Editorial fax: 212/904-4256 E-mail: *rivy@mcgraw-hill.com*
Two Penn Plaza, New York, N.Y. 10121-2298
WEB SITE: www.architecturalrecord.com
SUBSCRIBER SERVICE: 888/867-6395 (U.S. only). 609/426-7046 (outside the U.S.). Subscriber fax: 609/426-7087.
E-mail: *p64ords@mcgraw-hill.com*
INQUIRIES AND SUBMISSIONS: Letters, R. Ivy, *rivy@mcgraw-hill.com*; Lighting, C. Linn, *linnc@mcgraw-hill.com*; Books, C. Pearson, *pearsonc@mcgraw-hill.com*; Technology, W. Talarico, *wendy_talarico@mcgraw-hill.com*; Record Houses and Interiors, S. Amelar, *sarah_amelar@mcgraw-hill.com;* Practice, E. Kubany, *elizabeth_kubany@mcgraw-hill.com*; Products, R. Catinella, *rita_catinella@ mcgraw-hill.com*

SUBSCRIPTION: Rates are as follows: U.S. and Possessions $59; Canada and Mexico $79 (payment in U.S. currency, GST included); outside North America $199 (air freight delivery). Single copy price $8; for foreign $10. Subscriber Services: 888/867-6395(U.S. only); 609/426-7046 (outside the U.S.); fax: 609/426-7087.
SUBMISSIONS: Every effort will be made to return material submitted for possible publication (if accompanied by stamped, self-addressed envelope), but the editors and the corporation will not be responsible for loss or damage.
SUBSCRIPTION LIST USAGE: Advertisers may use our list to mail information to readers. To be excluded from such mailings, send a request to ARCHITECTURAL RECORD, Mailing List Manager, P.O. Box 555, Hightstown, N.J. 08520.
OFFICERS OF THE MCGRAW-HILL COMPANIES: *Chairman, President and Chief Executive Officer:* Harold McGraw III. *Executive Vice President and Chief Financial Officer:* Robert J. Bahash. *Executive Vice President, Organizational Effectiveness:* Barbara B. Maddock. *Executive Vice President, Global Markets:* John D. Negroponte. *Senior Vice President and General Counsel:* Kenneth M. Vittor. *Senior Vice President, Corporate Affairs, and Assistant to the President and CEO:* Glenn S. Goldberg. *Principal Operating Executives:* Leo C. O'Neal, *President, Standard & Poors;* Vasant Prabhu, *President, Information and Media Services;* Robert E. Evanson, *President, Educational and Professional Publishing Group.*
MCGRAW-HILL CONSTRUCTION INFORMATION GROUP: Norbert W. Young, Jr., FAIA, *President*
COPYRIGHT AND REPRINTING: Title ® reg. in U.S. Patent Office. Copyright © 2000 by The McGraw-Hill Companies. All rights reserved. Where necessary, permission is granted by the copyright owner for libraries and others registered with the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, Mass. 01923. To photocopy any article herein for personal or internal reference use only for the base fee of $1.80 per copy of the article plus ten cents per page, send payment to CCC, ISSN 0003-858X. Copying for other than personal use or internal reference is prohibited without prior written permission. Write or fax requests (no telephone requests) to Copyright Permission Desk, ARCHITECTURAL RECORD, Two Penn Plaza, New York, N.Y. 10121-2298; fax 212/904-4256. For reprints call 609/426-5129 or fax 609/426-7087. Information has been obtained by The McGraw-Hill Companies from sources believed to be reliable. However, because the possibility of human or mechanical error by our sources, The McGraw-Hill Companies or ARCHITECTURAL RECORD does not guarantee the accuracy, adequacy, or completeness of any information and is not responsible for any errors or omissions therein or for the results to be obtained from the use of such information of for any damages resulting therefrom.

PRINTED IN USA

Architectural Record
McGraw-Hill Construction Information Group
A Division of The ***McGraw-Hill*** *Companies*

ABC MPA

THE AMERICAN INSTITUTE OF ARCHITECTS 2000 BOARD OF DIRECTORS ▪ OFFICERS: *President:* Ronald L. Skaggs, FAIA; *First Vice President:* John D. Anderson, FAIA; *Vice Presidents:* Helene Combs Dreiling, AIA, Gordon H. Chong, FAIA, J. Richard Kremer, AIA; *Secretary:* David S. Collins, FAIA; *Treasurer:* Harry Rutledge, AIA, RIBA ▪ **REGIONAL DIRECTORS:** Roy Abernathy, Assoc. AIA, Jerry Abramson, Harold L. Adams, FAIA, RIBA, JIA, John Reid Benson, AIA, Bruce E. Blackmer, AIA, Derek Bradford, AIA, Timothy G. Cahill, AIA, Stephan Castellanos, AIA, Lugean L. Chilcote, FAIA, Donald M. Comstock, AIA, John F. Corkill Jr., AIA, Ben R. Darmer, FAIA, Richard Farson, PhD, Thomas G. Fernandez, AIA, Richard L. Ford Jr., AIA, John P. Franzen, AIA, James Gatsch, AIA, Holly K. Gerberding, AIA, Eugene Hopkins, FAIA, Edward Kodet Jr., FAIA, Lawrence R. Livergood, AIA, Kenneth Maynard, FAIA, David Messersmith, FAIA, Barbara A. Nadel, AIA, Robert L. Newsom III, FAIA, Thompson E. Penney, FAIA, Michael L. Prifti, AIA, Angel C. Saqui, FAIA, Larry M. Schneider, AIA, Katherine L. Schwennsen, AIA, Wayne D. Silberschlag, AIA, Bill D. Smith, FAIA, Marvin J. Sparn, FAIA, Douglas L. Steidl, AIA, Ward Whitwam, AIA, David L. Wooley, AIA, Steven Winkel, FAIA; *CACE Representative:* Timothy D. Kent, CAE; *AIAS Representative:* Melissa Mileff ▪ **AIA EXECUTIVE MANAGEMENT COMMITTEE:** Norman L. Koonce, FAIA, *Executive Vice President/CEO;* Fred DeLuca, Hon. AIA,*CFO;* Jim Dinegar, *COO;* Lisa Blackwell, *Managing Director, AIA Advocacy;* Michael Copp, *Managing Director, AIA Professional Practice;* Dale R. Ellickson, FAIA, *Managing Director, AIA Contract Documents;* John Gaillard, *Managing Director, AIA Meetings and Events;* Chuck Hamlin, *Managing Director, AIA Outreach;* Ken Olson, *Managing Director, AIA Technology;* Tom Stolle, *Managing Director, AIA Finance and Administration;* Kenna Wood, *Managing Director, AIA Marketing and Research;* Gina Yegerlehner, *Acting Managing Director, AIA Human Resources*

IN MEMORY OF MARTIN E. DORF,

THREE TIME DOC AWARD WINNER.

Dorf Associates
Interior Design, Inc.,
New York, NY
WINNING DESIGN FIRM

Martin E. Dorf, Ivonne E. Dorf, Paul Reber, Sung E. Shin, Lisa Sinclair, Jovencio Mercado, Eugene Flotteron
DESIGN TEAM

Dieter Hannig, Joanne Costello, Kimberly State
WALT DISNEY WORLD® RESORT
DESIGN TEAM

Coral Reef Restaurant,
WALT DISNEY WORLD® Resort,
Lake Buena Vista, FL
PROJECT

Milliken & Company
"Performer"
CARPET

Ultron® VIP Nylon 6,6
CARPET FIBER

FOR THE BEST DESIGNERS, THE

MARK OF EXCELLENCE IS THE DOC.

FOR CARPET, IT'S ULTRON® VIP.

doc

winner of the

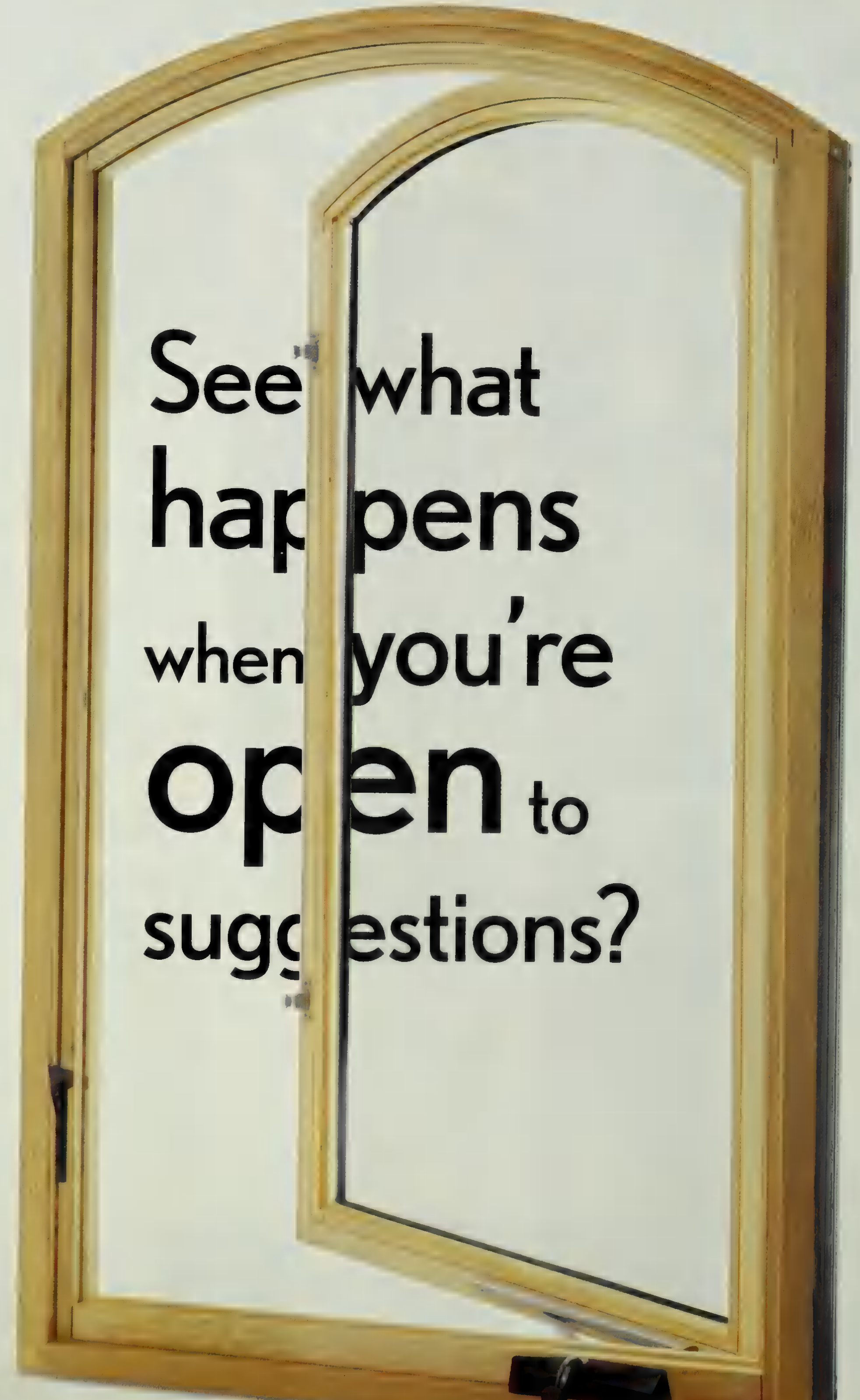
An elegant yet fun undersea world is created in this Doc Award-winning design for the Coral Reef Restaurant at WALT DISNEY WORLD® Resort. A fiber optic octopus, rock, and bubble panels recreate the mysterious deep, echoed in Milliken "Performer" carpet with Ultron® VIP nylon in blues, coral and green.

the best designs use the fiber of choice:
Ultron® VIP nylon 6,6

Enter the 2000 Solutia Doc Awards!
800-543-5377, 770-951-7600 or www.ultronvip.com.

SOLUTIA™

CIRCLE 7 ON INQUIRY CARD



our new Clad Casemaster Round Top

our new Clad French Casemaster

our new Outswing French Door

ur new Clad Ultimate Double Hung

our new Swinging Screen Door

Five new products introduced in the last nine months alone. Why so many? Simple. To meet a need. Your needs, for products that are more durable, more consistent, easier to install. Your customers' needs, for a unique shape, a special size, higher performance or lower maintenance. At Marvin, we make wood windows and doors in over 11,000 standard shapes, styles and sizes. Add to that our virtually unlimited custom capabilities and the point is this: no matter how simple or complex your project is, we've got the ideal solution for you. All you have to do is ask.

For a free catalog, call 1-800-236-9690. In Canada, 1-800-263-6161. www.marvin.com

MARVIN
Windows and Doors
Made for you.

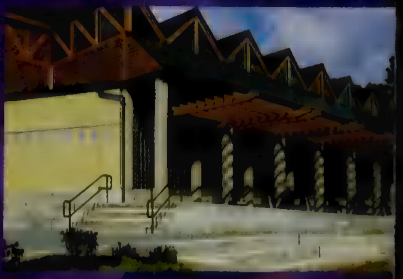
CIRCLE 8 ON INQUIRY CARD

1200005A

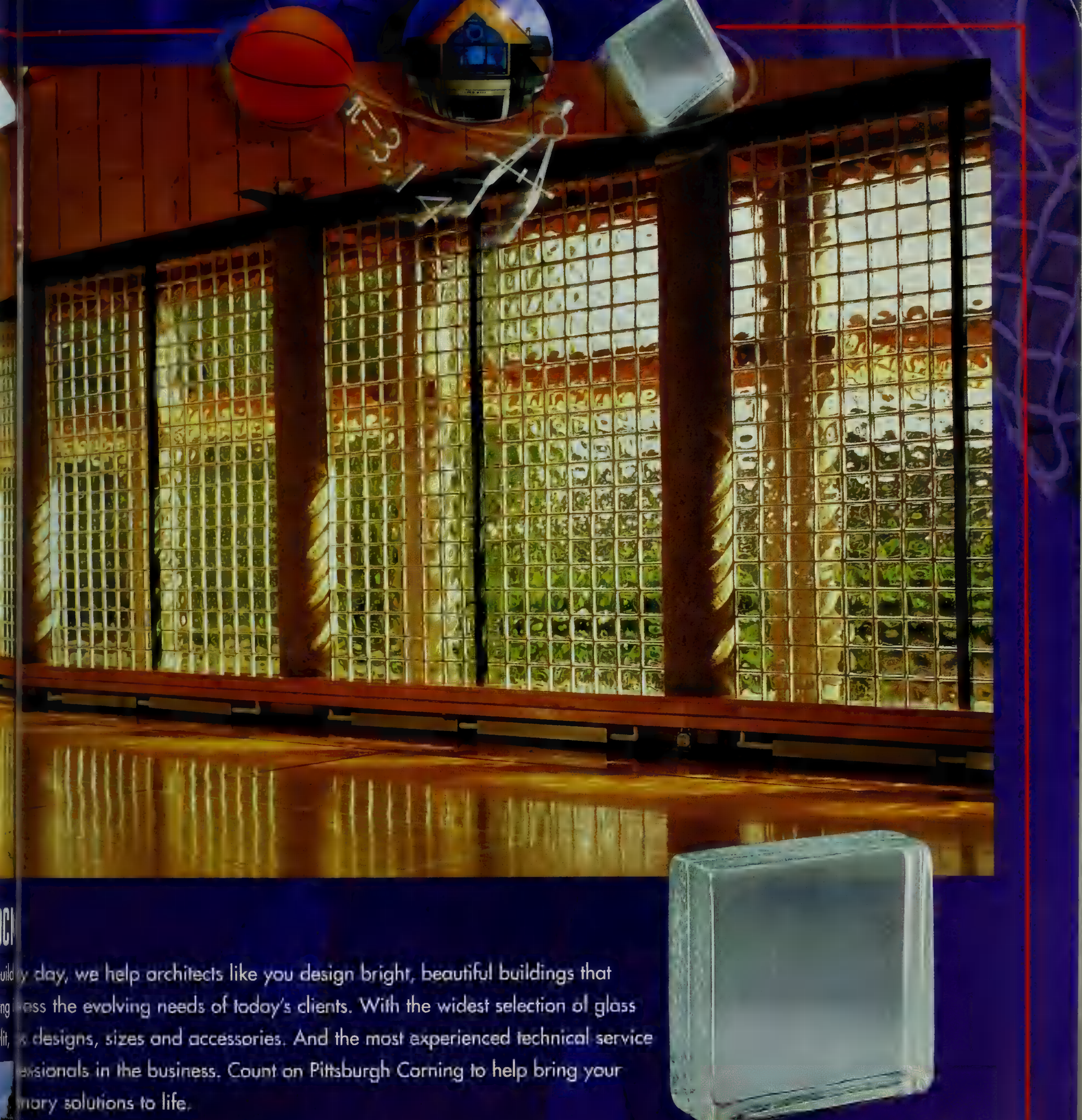
Lloyd Hall
Philadelphia, Pennsylvania
Firm: Armstrong Kaulbach Architects

ROCKING THE BOAT ON BOATHOUSE ROW WITH VISTABRIK® GLASS BLOC

Big opportunities generally mean big challenges. So when Armstrong Kaulbach Architects designed the first new buil on Philadelphia's Boathouse Row, they were looking at a once-a-century challenge. It had to be big without dwarfing neighbors. A modern classic with 19th century charm and 21st century convenience. They achieved this with a skylit, peaked profile and a three-sided expanse of VISTABRIK® Glass Block, Pittsburgh Corning's solid, three-inch thick glass block.



"This building is going to be used for everything from black tie parties to basketball games. So every inch of this place has to endure years of hard wear – and look great doing it. VISTABRIK® Glass Block has the perfect balance of durability, security and sheer beauty to make this place special." — Lisa Armstrong, AIA, Architect



y day, we help architects like you design bright, beautiful buildings that ess the evolving needs of today's clients. With the widest selection of glass designs, sizes and accessories. And the most experienced technical service essionals in the business. Count on Pittsburgh Corning to help bring your nary solutions to life.

us at 1-800-992-5769 for information on Pittsburgh Corning s Block or to recommend one of your projects for future "Profiles" es. To see more profiles of architects and their visionary solutions, our website at **www.pittsburghcorning.com.**

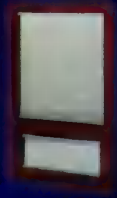
E 9 ON INQUIRY CARD

PITTSBURGH CORNING
GLASS BLOCK

THE KAWNEER WINDO

FROM EXPERIENCE COMES ILLUMINATION.

Experience isn't just measured in years. It's also gauged by performance. Quality. Flexibility. And the passion to continually raise the bar. These are the qualities that define the Kawneer window. Our patented IsoLock® thermal break uses Kawneer's exclusive lanced pour and debridge process to combine energy savings with structural integrity. An advanced vent and frame design retards air and water infiltration. A wide palette of protective coatings and painted finishes combines beauty with lasting durability. And our tradition of close collaboration early in the design stage assures a successful marriage of form with function for architects, and building owners alike. The Kawneer window. Let our experience bring your brightest ideas to life.



Kawneer

The Mark of Responsibility

CIRCLE 10 ON INQUIRY CARD

© [illegible] Kawneer Company, Inc. · An Alcoa Company · Technology Park/[illegible] · [illegible] Court Norcross, Georgia 30092 · [illegible] · www.kawneer.com

Now there's a lighter, easier to handle alternative to masonry systems.

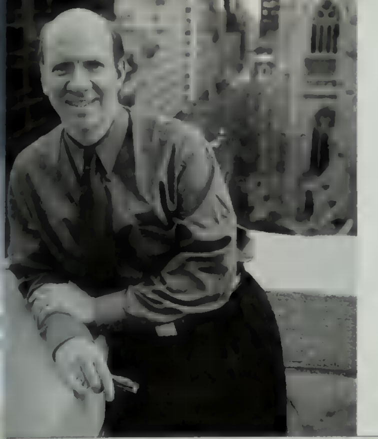
Introducing
INSULSCREEN™ 2200
exterior wall system.

Protect yourself from the cost and weight burden typical of masonry systems. Spec INSULSCREEN 2200 featuring USG® FIBEROCK® Brand Sheathing with AQUA-TOUGH!™ It's not only faster to install and more energy efficient than masonry, it also costs less. To learn more about our versatile, high-performance EIF System and 10-year limited labor and material warranty, call 800-USG-4YOU.

USG EXTERIOR SYSTEMS
INSULSCREEN™ 2200

www.usg.com
©2000 USG Corporation

CIRCLE 11 ON INQUIRY CARD



Hands-on architecture

Editorial

By Robert Ivy, FAIA

Nothing can prepare you for a jackhammer. The deliberate way the machine rises and falls in your hands, shaking the core of your body, lies outside any other experience. You cannot imagine the precise way it slices through concrete as if it were bread or conjure up its unyielding power by computer; you have to pick one up, grip the handle to turn it on, and give it a ride. One trip and you'll understand more about the way we make actual buildings, something every architect should experience.

If you've never built, but merely thought about building—planned it, drawn it, scheduled it—the craving for actualization can resemble unfulfilled hunger. In this theory-dominated era, a cool zone in which words and pixels distance us from reality, a small, complementary movement by students and practitioners toward hands-on architecture is satisfying that craving. Though limited in scope, this trend includes individuals, volunteer organizations, and coursework from Georgia Tech to Nova Scotia. Significant in implication, the movement bears naming and discussion, for it comments on our aspirations as architects, our preparation for the real world, and our recognition of how our business has diverged from our dreams. Call it hands-on.

By definition, hands-on architecture is actually a form of design-build, though a variant of and a specific category within the normal definition of that term. As writer Susan Piedmont-Palladino states, "There is no 'design-build style,' no such thing as 'design-buildism' . . . design-build has no necessary formal characteristics." The term can apply equally to a highly crafted apartment renovation by an architect or a repetitive tilt-up industrial park, even though the scales vary radically and the outcomes lie at stylistic and aesthetic extremes. Both involve interdisciplinary collaboration in design and construction, while their stark differences reflect how architecture has fractured in the last century.

Simplistically put, the distinction lies between stripped-down Modernism and handcraft. At the large scale, design-build can produce economic efficiency through industrialized production, with consequent savings of time and effort. The soul of the design-build machine is construction engineering and the mastery of process, with a cursory nod to its architectural great-uncle, the Bauhaus. When synthesized with architectural vision, good or even great architecture can occur from coordinated, cooperative efforts; more often, when the architect's role in the design-build team diminishes and the budget constricts, the results can be mundane.

At first glance, hands-on architecture seems radically different from design-build. Unlike that speedy method, the craft-intensive, high-touch movement luxuriates in time; schedules often depend on the availability of workers rather than on fixed completion dates. Changes occur all the time, viewed more as the creative, responsive offshoots of evolving ideas, an opportunity to celebrate the interrelationship of all the arts. Social awareness, linked to ethical or moral positions, sometimes characterizes the work: This is architecture for people who care, a decidedly un-hip attitude today. Hands-on architects may seem tinged with granola, when everyone else is wearing platinum gray.

What have been the wellsprings of this folksy, artsy business? Surprisingly, the hands-on movement shares some philosophical antecedents in the United States with its more pragmatic cousin, design-build. Emerson, for example, talked about the "useful arts," such as architecture, which explores truth through construction. In describing organic architecture, however, Emerson defined craftsmanship in building as a more deterministic, nature-inspired discipline.

More explicit influences for today's hands-on tradition include John Ruskin, the mid-nineteenth-century English critic who glorified "honesty" in materials. Later, William Morris and the Arts and Crafts movement in Britain propounded the integration of the arts with building, a movement represented in this country by Gustav Stickley and his magazine, The Craftsman. *Subsequently, through Sullivan and Wright, craft flowered into full-blown organic architecture, on the one hand, and toward a more* *explicit, craft-based tradition on the other. Neither addresses the diverse techno-culture evolving today.*

*Who's working hands-on today? Any practicing architect who envisions and constructs a house and studio, as Randy Brown did in Omaha. He built it, lives and works there, and this magazine published it [*RECORD INTERIORS*, September 1997, page 96]. Jonathan Segal, who developed a neighborhood in San Diego called Little Italy, has enlarged his role in the design and construction process to include design-build, and he has been profitable in the exercise, becoming a vocal advocate of new roles for architects along the way.*

Everyone knows the iconoclastic work of the firm Jersey Devil. Founder Steve Badanes, a no-holds-barred designer and builder, personifies the term hands-on. Widely published, though decidedly outside of mainstream currents, his group has consistently produced thoughtful, funky, modestly scaled architecture. In projects such as the Palmetto House in Florida, he and his group literally move onto the construction site, creating environmentally sensitive, site-responsive buildings in their wake. More recently, they have combined education and execution. For three years, Badanes has led students to San Lucas, Mexico, where students from the University of Washington, architects, and the local community have shared in the building of the Escuela Emiliano Zapata, an elementary school for 300 persons.

Big names like Stanley Tigerman, FAIA, *tout hands-on. He and Eva Maddox founded and run Archeworks, an educational institution with an explicit agenda of social improvement. Tigerman is forceful on the subject of ethics, architecture, and application: "There is so much theory-driven discussion," he says, "and so much virtual architecture, that students are distanced from making things. They want to build nobly and well, but not much of it is happening." Through Archeworks, students from a variety of backgrounds have designed and built for the Lakeshore SRO, the YWCA, and other Chicago institutions, learning while they build.*

Hands-on is not confined by geography. Is there an architect or a school of architecture that has not pounded nails for Habitat for Humanity? Part of the appeal of the volunteer program has been to capture the work and energy of non-professional builders, to let them get their hands dirty for a good cause, even those who may have never carted Sheetrock. As government retreated from subsidized housing, Habitat stepped in to fill a particular need—for citizens able to pay a mortgage but outside traditional credit guidelines.

Initially, founder Millard Fuller avoided architect's plans, fearing that they might build houses that were too elaborate and too expensive. Today, the program welcomes their contributions, and the results show. For a decade, the houses Habitat has built have increased in planning and construction sophistication beyond simple cinder-block structures. Habitat now sponsors design competitions with AIA chapters and student organizations. This year, the Young Architects Forum joined with Habitat in a design competition for a "Prototype for the New Millennium," a new housing prototype set in Pulaski Town, a neighborhood in Philadelphia.

They participate because they are hungry to build. Architect/educator Sam Mockbee says, "Students are dying to do this all over the country." No single program has garnered more kudos for its savvy blend of design excellence, social purpose, and experience than his Rural Studio in Hale County, Alabama. Far from either coast, as deep into old Dixie's poverty belt as you can slide, Sam and acting Auburn University architecture dean D.K. Ruth have drawn students South, to cook and clean and live together at what Sambo calls "a redneck Taliesin," reading great literature, drawing, and building for the people of the county. Along the way, he and the students have produced masterful, simple works of architecture from humble materials, including Yancey Chapel, a small, transcendent building constructed of abandoned tires and heart pine lumber, and a straw-bale house with an adjacent smokehouse cobbled together from jackhammered concrete and discarded bottles.

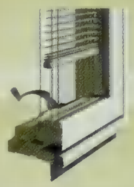
While others engage in hyped contemporary work, the students at the Rural Studio often perform humble architectural acts, like insulating the windows of a leaky house with a translucent layer of thick plastic sheeting for a 98-year-old man. Minimal fuss, maximum improvement to make a warm, dry room. If hands-on architecture is a cause, then the Rural Studio is a spiritual home. How unfashionable and utterly right!

We can't all move to Newbern, Alabama. For those of us whose sixties sensibilities may have faded, who now sport sunglasses on cloudy days and have developed an immune response to any whiff of a cause, no need for alarm: Commerce continues to rule the marketplace. But however limited your experience with construction might be, there is still time to take off the shades, grab a hammer and pound a few nails, or even hoist a jackhammer before you plan that next wall section. It isn't necessary to have built a wall before you design one, but if you have—at school, for yourself, or for a client—you'll build a better wall. Hands down.

Robert Ivy

NOT YOUR ORDINARY WINDOW. IN FACT, IT'S A WHOLE DIFFERENT ANIMAL.

Things can get a little wild in the classroom. That's why Pella puts blinds, shades or muntin bars between panes of glass. That way, they're protected from dust, dirt … and sticky little fingers. And they give classrooms more tackable wall space.



PELLA®
BETWEEN-THE-GLASS BLINDS

- **Multiple-pane glazing systems improve sound reduction and thermal efficiency.**
- **"Tilt-only" or "raise-and-lower" blinds are available with double- and triple-pane glazing systems.**

Warm wood interiors create a comfortable learning environment. Naturally. And our aluminum-clad exteriors are virtually maintenance-free.

Get the jump on your next project. Call your commercial rep at Pella for assistance with all of your commercial projects — start to finish.

Pella COMMERCIAL DIVISION

COMMERCIAL SOLUTIONS: EDUCATION · HEALTH CARE · HISTORIC RENOVATION · HOSPITALITY · OFFICE · RETAIL
FOR MORE INFORMATION, OR A COPY OF *COMMERCIAL SOLUTIONS FOR EDUCATIONAL FACILITIES*, CALL 1-800-84-PELLA.
WWW.PELLA.COM

CIRCLE 12 ON INQUIRY CARD

[FIRE PLACE]

NEW PRODUCTS CAD DRAWINGS SPECIFICATIONS

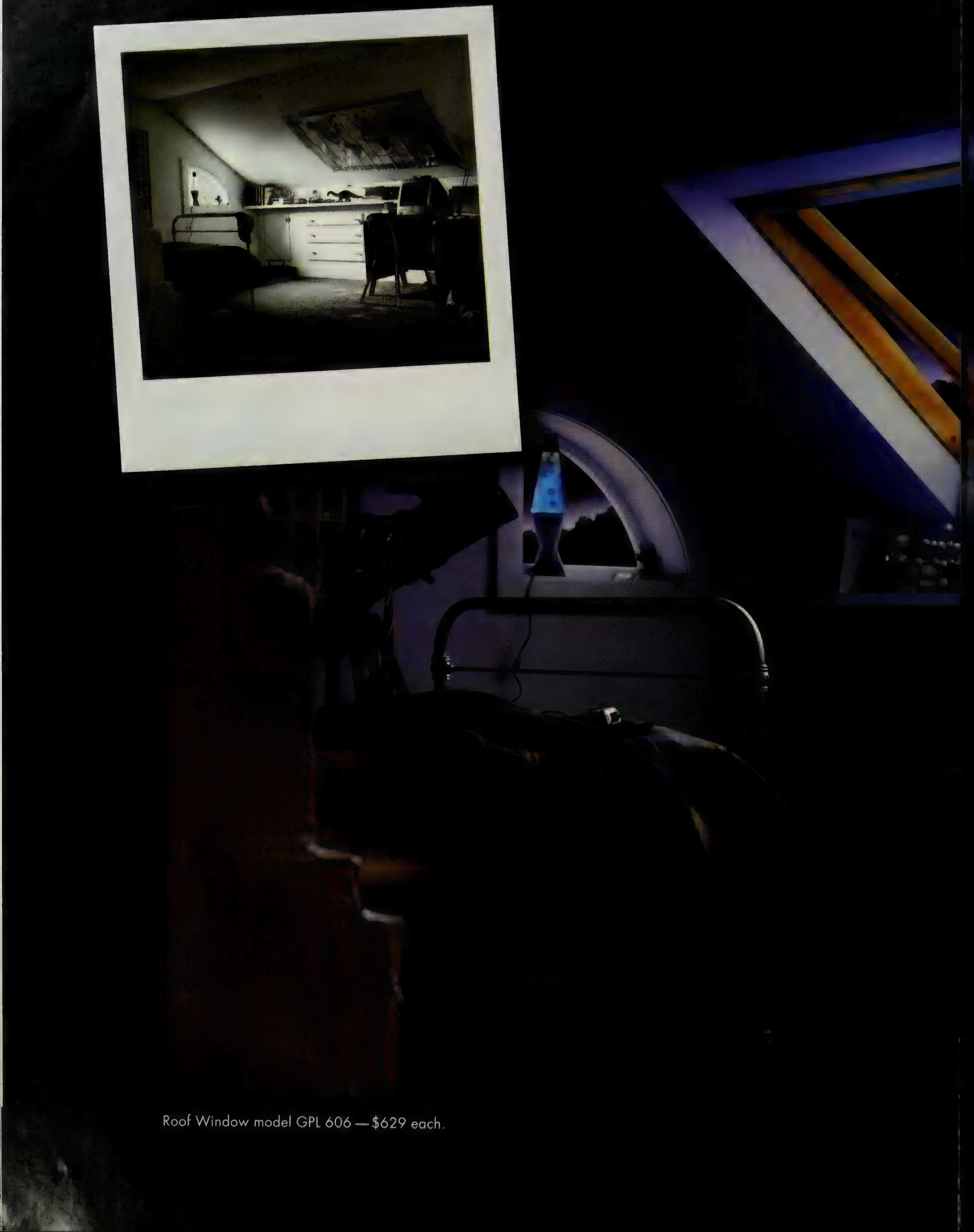
WWW.FIREGLASS.COM

Your source
for fire-rated
glass and
framing

1.888.397.FIRE
CIRCLE 13 ON INQUIRY CARD (3473)

PRODUCT COMPARISONS ARTICLES LINKS

TGP
Technical Glass Products
ONE SOURCE. MANY SOLUTIONS.



Roof Window model GPL 606 — $629 each.

For more information call 1-800-283-2831. www.VELUX-AMERICA.com

CIRCLE 14 ON INQUIRY CARD

Letters

Hadid indeed

I can't comment on the design of Zaha Hadid's Mind Zone [March 2000, page 118] because I haven't seen it, but I found writer Deyan Sudjic's apologia amusing. He bemoans the fact that Hadid's neighbor—McDonald's—is not worthy, and that her structure is held captive inside Richard Rogers's evil Millennium Dome, in England. Then Sudjic cites "efforts by health and safety officials to defuse the structure's aesthetically explosive qualities," in the form of handrails and other onerous safety-related measures added after the fact. "The sharp edges," he notes, "have been boxed in."

Where I come from, such impositions on artistic genius are known as "context" and "reality." Some of us have even been known to use them to enrich and strengthen our designs. Until recently, the greatest hazards posed by Hadid's work have been paper cuts; looks like it might be time for a code check.

—Howard Fitzpatrick
Seattle

Meier for hire

I want to thank architect Richard Meier, FAIA, for his "Critique" in the March 2000 issue [page 57]. I wholeheartedly agree with his suggestion: "If we as architects wish to have our work better respected and understood by the public, we should work toward seeing it more regularly represented in the popular press." I would add that architecture be discussed in our schools to excite and provoke students, from childhood on. Unfortunately, it's possible for a youngster to graduate from high school without any awareness of architecture and the role and responsibility of architects. Without exposure to architecture, how many of them or their parents will demand it?

—Eric J. Pick, AIA
Port Washington, N.Y.

Mayne man

Thom Mayne, of Morphosis, makes a questionable defense of the design for his Student Housing Project at the University of Toronto [March 2000, page 34]. He says, "It's not [the] architect's role to worry about whether people like or dislike a piece of work. The bigger problem is if nobody notices it as it goes up." I would agree that creating a noticed building can be a worthy goal. Mayne, however, seems to be saying that unnoticed work is not so good, and—incidentally—that the public's reaction to the buildings that surround them doesn't matter, either. That's pretty egocentric.

To work architecturally, our cities need a mix of both "noticed" and not-so-noticed buildings. All are important. It's the variety and range of elements working together that provide a nourishing richness. There may even be a role for buildings that reach out and scream for attention, as Mayne's does at the University of Toronto. But please don't relegate the rest of us to the ash heap.

—Eric Lassen, AIA
Santa Barbara, Calif.

Stuck in the back row

Sure, I've been there ["Just Another Renovation," February 2000, page 15], as I'm sure countless other architects have been in their careers. It's sad. Still sadder is the feeling that ARCHITECTURAL RECORD and other magazines should be added to the list of those who seem uninterested in the day-to-day efforts of most architects. Cleverly titled articles and pretty photos are part of the reason architecture is seen as superficial and architects' names are located at the bottom of the plaque—if at all.

There is a lot of good—sometimes great—architecture being built in unassuming places all over this country. But at the end of project, most of us don't have enough money left in the fee—not to mention time or energy—to glamorize ourselves to the press.

—Jeremiah Eck, FAIA
Boston, Mass

Editor in chief Robert Ivy responds: It needn't cost much to submit your work for consideration. Check out our Web site at www.architecturalrecord.com to find out how.

To the maxx

The Music School and Cinemaxx project in Mannheim, Germany, [March 2000, page 110] is a classic example an infill project that makes me optimistic about the long-term urban prospects for Mannheim. The structure is a real asset to the city.

Its massing and construction fit the site well and reinforce the street line. The project is about two blocks from a shopping area that is trying to continue functioning as the main marketplace of the Rhine-Necktar region. Now that German laws have been significantly liberalized, nearby department stores seem to have a real chance of success.

But one gets the impression that this project is also helping to draw people back to Mannheim. Friends have told me that trips are planned to the Cinemaxx multiplex, which is cheerful, has ample parking, and is only two blocks from the light-rail lines that converge on this historically vital town.

—Thomas Y. Allman
Mt. Olive, N.J.

Man vs. machine

I am skeptical of the writer who thinks, "If humans can infer design intent from sketches, computers can, too" [December 1999, page 224]. I have found that even trained humans sometimes have a hard time inferring design intent, because sketches are almost always one-dimensional doodles. They may be a starting point for a design, but the intent is always compromised, reinvented, redirected, and rediscovered through the process. Highly trained professionals working from complete construction documents often have problems inferring design intent. And, of course, there are those situations where a thick line was drawn before the pen went dry, and so now the upper reveal seems too heavy. Computers may be able to assemble a response to a sketch. But don't expect any improvement over human interpretations.

—Dirk S. Hinnenkamp
Columbus, Ohio

Like a machine

How does an architect, as a professional designer and agent of the owner, deal with the economic and social pressures to deliver faster, quicker, cheaper [March 2000, page 55]? Do we morph into cyborgs that can spew out digital documents in record time? What about quality? The change in emphasis from "value delivered" to "fast delivery of content" has shifted the ground from underneath the profession, as has the need to increase profit margins in order to keep up with the growing demands of overhead and the cost of financing business operations.

A professional, by the requirements of a license, must stand behind the service that is provided to the client. But there is increasing pressure to shortchange service to accommodate the new business model. Clearly, our responsibility as professionals demands that we uphold the standards of quality and creativity that our background, training, and license require. We need to take charge of the product delivery

Changing The Way You Think About Walls™

textra™

Glass Textile Wallcoverings

Johns Manville's glass textile wallcovering adapts to various surroundings as easily as a chameleon. Durable *Textra*™ is offered in a choice of woven-in patterns. Yet it's also designed to be painted and can be repainted up to 8 times. This unusual combination of texture, color, and performance opens up infinite possibilities.

Now available in North America, glass textile wallcovering has been used for decades in Europe - where it even hangs in the Louvre museum. Easy to install, *Textra* camouflages minor wall surface irregularities. It holds up in high-traffic areas, hides dirt, and can be quickly patched if ever necessary. Non-toxic and flame-retardant and strong, it actually increases the dimensional stability of the wall. And unlike vinyls, *Textra* is porous and is an ideal component of a breatheable wall system.

Visit the JM web site at www.jm.com/textra or call 1-800-654-3103 for more information on *Textra*. You'll start changing the way you think about walls.

JM
Johns Manville

Rattan Twine
#T8065

CIRCLE 15 ON INQUIRY CARD

Sand Pebbles
#T9070

via the legislature, the construction industry standards, and the public and private financing vehicles that drive project funding. Otherwise we will be expected to design buildings that have a built-in obsolescence of 25 years to accommodate depreciation schedules. And when the bubble economy is over, cities and their structures will need to endure.
—Laurie Barlow, AIA
via E-mail

Landscape view
I applaud your recent article "The Other Side of the Fence: What Drives Landscape Architecture Now" by Paul Bennett [January 2000, page 58]. This is the most informed and insightful presentation on the profession of landscape architecture that I have ever seen in a nonlandscape publication.

Still, I don't think that most architects understand the breadth of the practice of landscape architecture—particularly in the area of environmental stewardship. The environmental movement in landscape architecture is not just a phenomenon of the past 5 years, but of the past 150. Landscape architects were major players in the environmental protection movement; stewardship is at the very core of our profession.

By letting your readers know about us and what we do, the possibilities for collaboration are greatly enhanced. As we become better informed, the quality and influence of all our work will be heightened.
—Barry W. Starke
Casanova, Va.

Separated at birth?
In the February 2000 issue, the photographs of a 1906 earthquake-ravaged San Francisco building [page 127] and Frank Gehry's Vontz Center for Molecular Studies, at the University of Cincinnati [page 81], are startlingly similar. Gehry seems to enjoy designing buildings that appear lopsided, tumbling, or destroyed. When I first saw a photograph of Bilbao, I honestly thought it had been bombed. Will history label these great architecture? Will society accept cityscapes of stumbling, crumbling structures? How much originality is required to design buildings that appear off-balance? Of course there are defenders who will rationalize these designs. But is it really responsible to rationalize the irrational?
—Leon Rosenthal, AIA
Franklin Square, N.Y.

Cracking the shell
As an architectural historian, I spend much of my time looking at 18th- and 19th-century vernacular farmhouses and buildings. Generally, they are integrated wholes with well-worn spaces that speak of the lives of their inhabitants. Writer Suzanne Stephens describes the interiors of Christian de Portzamparc's LVMH Tower [March 2000, page 98] as a warren of uncomfortable offices. But she then retreats to the cozy confine of aesthetics-driven architectural criticism, questioning whether the nature of the skin on a single facade—a thir section of the whole—makes the building architecture.

The structure's seductive, sinuous south facade may be beautiful, but its "cramped, windowless" remainder, which is hom to the vast majority of occupants, is mediocre. Until architects and professional design critics accept that architecture is more than facade—that buildings, like people are more than skin-deep—we are doomed to continue living and working in woefully designed (if occasionally beautiful) homes and offices.
—Marvin A. Brown
Raleigh

Reentry procedure
Expanding the role of architects into everything from regional planning to facilities management will

help keep architecture a healthy, growing profession. As an unemployed, nontraditional practitioner I was pleased to read March 2000 articles by Eric Teicholz ["Architects in Facilities Management," page 176], James S. Russell ["New Visions for Urban America," page 76], and Elizabeth Harrison Kubany ["Recession Proofing," page 55]. However, if my job search is any indication, most firms are only looking for recent graduates to grind out CAD documentation for traditional projects.

In the early 1980s, I joined the navy after completing a combined graduate program in architecture and business administration. As a commissioned officer, I was given management responsibilities immediately. Over the course of my career, I acquired experience in facilities management, environmental compliance programs, and contracting for construction and services. I passed the A.R.E. and completed another graduate degree in urban and regional planning. But now that I have retired from the navy, at age 44, I find that I am so far outside the bounds of traditional practice as to be unemployable. The March issue has given me hope that things are changing in at least some firms.

—Scott Calisti
Brighton, Mass.

Right idea, wrong city

I enjoyed your February article on the GSA architecture, titled "The Nation's Biggest Landlord Just Found Style," and I was quite pleased to see some of the innovative designs included there. However, as someone who passes daily within view of the grand new Robert C. Byrd Courthouse, in Charleston, West Virginia [page 66], I feel obligated to point out that it is not in Charleston, South Carolina, as reported.

—Dr. Billy Joe Peyton
Charleston, W.V.

Titillating title

Has anyone at the AIA or NCARB noticed that Bill Gates's new title at Microsoft is Chief Software Architect?

I was under the impression that only registered architects could use this term. As someone who spent five years getting my degree, several years thereafter working in a personally fulfilling yet financially unrewarding profession, stressing to complete my rigorous licensing exams, and managing multiple million-dollar projects, only to be told that I can't use the term architect when telling people what I do for a living, I find Mr. Gates's frivolous use of this term most insulting and feel the AIA and/or NCARB should address this issue. I'm sure the American Medical Association would never allow him to use the title Dr. William Gates, Software Epidemiologist.

Perhaps I should just become the richest person in the world and declare myself czar.

—Kully Mandon
San Jose, Calif.

Corrections

The architect for the Omaha Federal building and U.S. Courthouse [February 2000, page 64], was Pei Cobb Freed & Partners and DLR Group. Architects Carrier Johnson were not mentioned as collaborators on a new library for San Jose, Calif. [February 2000, page 46]. In the November 1999 issue [page 118], two team members were omitted from a list of credits for the Wilbert Snow School: Leesa L. Heath, AIA, and Gary Hale. In the renovation of the Reliance Building and subsequent interior retrofit of the Hotel Burnham [February 2000, page 112] the general contractor was Plant/UBM, a joint venture.

Letters may be E-mailed by clicking ***Letters*** *on our Web site at* ***www.architecturalrecord.com.***

41 *hurricanes**

Developed as a superior Engineered Solution to elevated floor construction challenges, Hambro's MD-500 and MD-2000™ composite floors successfully withstand the most rigorous tests of nature. Combining composite steel joists with poured concrete creates a strong floor that is simple to install, can be supported on all types of structural framing, and provides outstanding soundproofing with up-to-date UL and ULC fire-resistance ratings. The result: a structural design that emerges as the most Competitive Solution for your project.

Engineered solutions
Engineered service

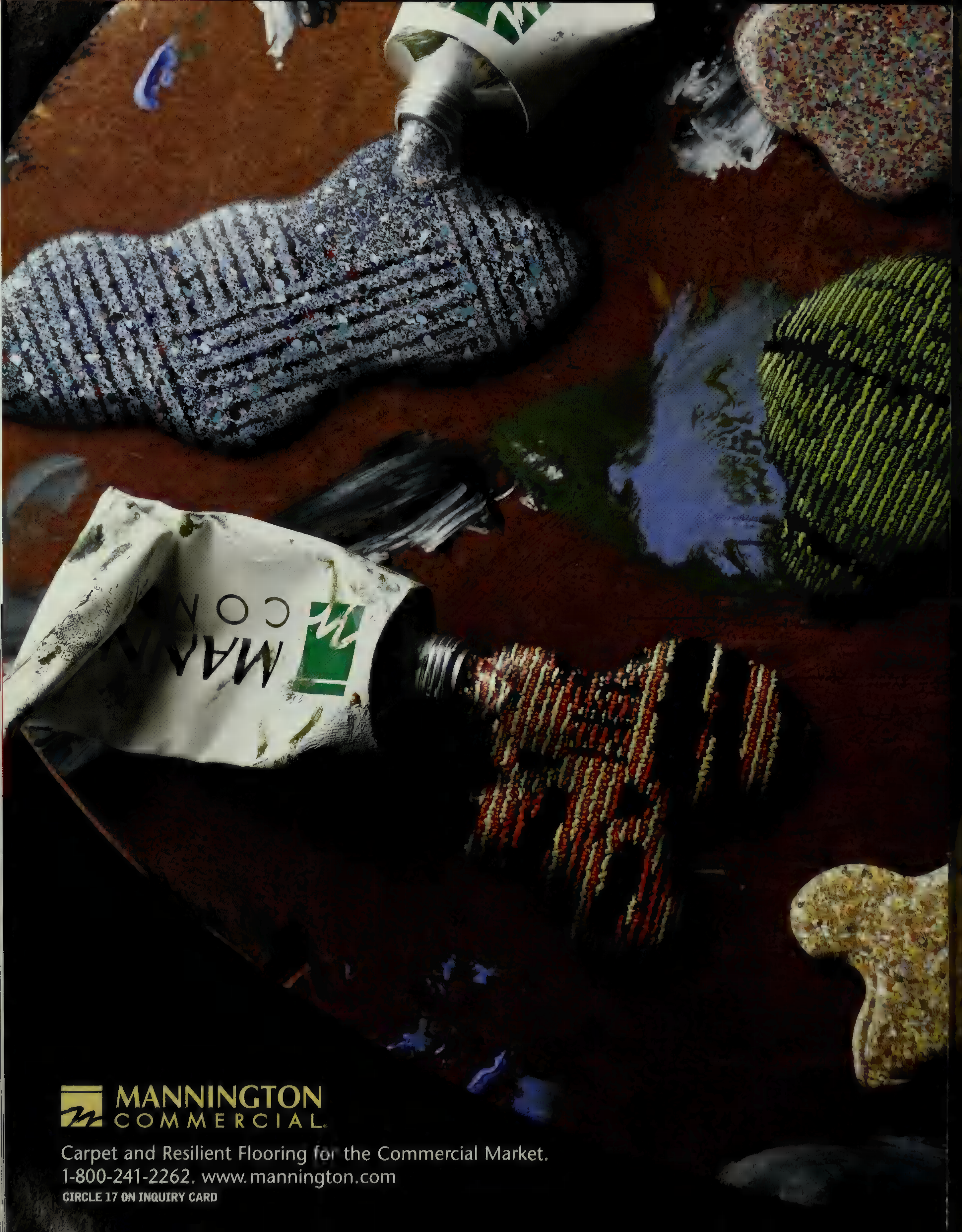
Our proven systems, engineering expertise and manufacturing facilities translate into Value-Engineered Solutions that allow you to reduce your project's construction timeframe while saving on the cost of materials and labor. For more information, please call your nearest Hambro office or dial 1 800 546-9008 and ask for Gary Collins, Hambro Marketing Manager.

hambro®
SOLUTIONS + SERVICE

http://www.hambrosystems.com

* Number of hurricanes that hit the Atlantic basin from 1995 to 1999.

CIRCLE 16 ON INQUIRY CARD



MANNINGTON
COMMERCIAL

Carpet and Resilient Flooring for the Commercial Market.
1-800-241-2262. www.mannington.com
CIRCLE 17 ON INQUIRY CARD

MANN
COMM
MANNINGTO
COMMERCIA
MAN
CO

QuitStonewallin

Precast

- Appx. installed cost $32/sq. ft.*
- Appx. lead time 6-12 months

Dimension Series Panels

- Appx. installed cost $25/sq. ft.*
- Appx. lead time 6-12 weeks

DIMENSION SERIES
A Product for the New Millennium
As selected by Architectural Record

*Based on average material and labor costs for complete curtainwall including supports.

ENTRIA's New Formawall Dimension Series

Architectural Metal Panels

RIA's new Dimension Series panels are more attractive, colorful, and versatile — and you can get them now without waiting! Dimension Series panels give you everything precast doesn't. Like lower installed cost. [illegible] over 100 colors. Integral insulation. Lightweight, weathertight construction. And a wider range [illegible], profiles and reveals that give you virtually limitless design freedom. [illegible] Contact RIA [illegible] and add new Dimension to your design.

You've settled for precast long enough.

CENTRIA

CENTRIA Architectural Systems

1.800.752.0549
www.centria.com
CIRCLE 18 ON INQUIRY CARD

Architect: HOK; Photo: Erhard Pfeiffe

The George Bush Presidential Library Center was insulated with Tuff-R®"C" because it was the most intelligent choice.

One more way to build on our knowledge

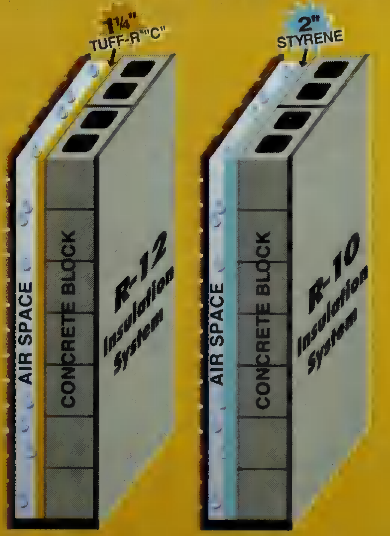
Original insulation specifications for the George Bush Presidential Library Center calling for 2 inch insulation board with an R-value of 10, were not cost efficient.

A specification change to **11/4 inch** Tuff-R®"C" Commercial Insulating Sheathing did even more than reduce cost. An additional **3/4 inch** dead air space in the cavity wall, coupled with the reflective foil facer yielded an additional 2.1 R-value for a combined total of **R-12.** According to the ASHRAE Handbook of Fundamentals, that's a 20 percent increase relative to the original specification.

The benefits don't even stop there. The additional air space allows **faster moisture evaporation** and ease of application increases **labor efficiency** as construction erection tolerances become less critical.

Tuff R®"C" is supported by a **15-Year Thermal Warranty.** For more information visit our learning center, Celotex Tech, at www.celotex.com, or call 1-800-CELOTEX. "We're the company you can talk to."

14 INCH CAVITY WALL SYSTEM



MORE AIR SPACE
HIGHER R-VALUE

Celotex

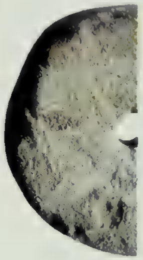
Build On Our Knowledge™

CIRCLE 19 ON INQUIRY CARD

CEILING TILES / SHINGLES / GYPSUM BOARD / RIGID FOAM INSULATION

© Celotex Corporation. 2/00

Visit us
at the AIA Expo
in Philadelphia
May 4-6 2000, Booth #1333



Half of a great idea...
is just that

MERIDIAN PROJECT SYSTEMS DELIVERS

Meridian Project Systems offers the AEC industry's only complete project management solution.

Prolog has long been known to be the best project management solution and it just got better! Announcing the Meridian Project Pack v6 running on Microsoft SQL Server 7.

The Meridian Project Pack includes:

- **Prolog Website**–Collaboration application designed for the project team.
- **Prolog Manager**–Power application designed for project managers.
- **Prolog Executive**–Data mining application for executives.
- **Prolog Pocket**–Data collection application designed for the field.

And the power of Prolog is now available as an internet hosted solution at ProjectTalk.com.

We don't know why anyone would settle for less.

ProjectTalk.com

Meridian Project Pack is available by subscription ■ ProjectTalk.com

MERIDIAN
PROJECT PACK
Powered by Prolog™

Meridian
PROJECT SYSTEMS

For information call (800) 850-2660
or e-mail sales@mps.com
www.mps.com
www.projecttalk.com

Microsoft Certified
Solution Provider

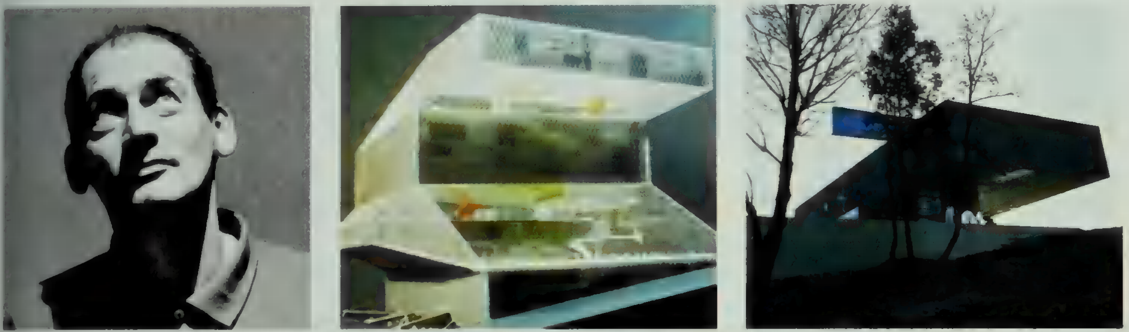
CIRCLE 20 ON INQUIRY CARD

©2000 Meridian Project Systems, Inc. All rights reserved

Record News

Bulletin New Pompidou eatery p.43
SMWM gets Boston's Big Dig p.44
Stadium parade goes on p.47
Turkey's Israel Village p.52

NEW RECOGNITION FOR A DUTCH MASTER: REM KOOLHAAS TAKES THE PRITZKER



Koolhaas; a preliminary design for the Seattle public library; the Bordeaux house (left to right).

Rem Koolhaas, a 56-year-old Dutch architect who has exerted a profound influence over a new generation of architects in the Netherlands and beyond, won the Pritzker Architecture Prize for 2000. The prestigious award includes a $100,000 grant and will be presented in Jerusalem on May 29.

Koolhaas cofounded the Office for Metropolitan Architecture, now based in Rotterdam, in London in 1975. One of his earliest plans, for the expansion of the Dutch parliament, generated high interest, and a string of commissions followed. Notable completed works include the Netherlands Dance Theatre; the Educatorium, a multifunction building for Utrecht University; a master plan and the Grand Palais for Lille, France, Koolhaas's largest completed urban planning project; and Nexus Housing in Fukuoka, Japan, consisting of individual three-story houses. The architect's Bordeaux house, catering to a client in a wheelchair, was named best design of 1998 by *Time.*

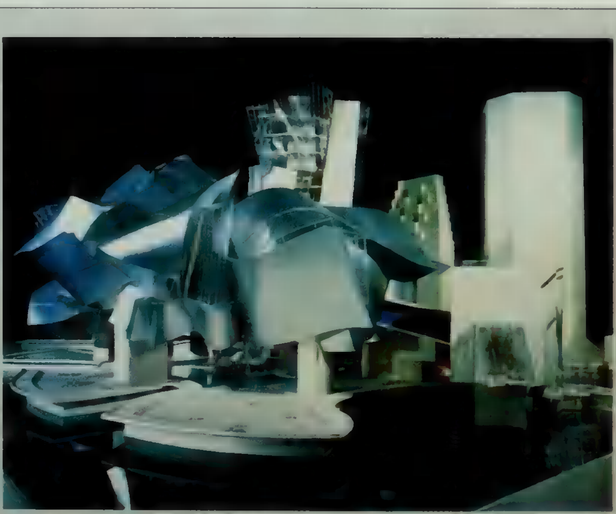
The Museum of Modern Art in New York City has already had two exhibitions devoted to Koolhaas's ideas, but his ideas are not always popular: Koolhaas's preliminary designs for a new public library in Seattle are meeting resistance. The architect, however, doesn't mind conflict. "I am intolerant of anything that is not brutal and direct," he said in April in New York City. "Architects are agents of private enterprise," he added. "[We are in a] new regime—of globalization, of the ultimate modernization. Residue of old legitimate architecture remains, but architecture has changed fundamentally, at top speed."

Koolhaas is also an author whose books are widely read. In 1978 he published *Delirious New York,* a subjective history of New York City, and *S, M, L, XL* followed in 1994. *The Harvard Design School Guide to Shopping,* to be published next month by Monacelli Press, grew from a studio Koolhaas conducted at the GSD, and addresses the architecture of mass consumption.

Koolhaas is at work on a master plan and headquarters for Universal Studios and a student center for the Illinois Institute of Technology, and he has just teamed with hot Swiss firm Herzog & de Meuron to design a hotel in downtown Manhattan. *Soren Larson*

GEHRY'S NEXT GUGGENHEIM? The Guggenheim Museum and Frank Gehry, FAIA, have revealed what could be their next collaboration: a dramatic new branch of the museum to be built on East River piers in lower Manhattan. Though the project is speculative at this point, it provides a glimpse of the ambitious ideas Gehry and his client have for New York City. The museum envisions a 550,000-square-foot structure, characterized by Gehry's flowing and sculptural forms, with a price tag of as much as $900 million. "I will not make a building that is a copy of Bilbao," Gehry said in an April press conference. "We're using what we've learned at Bilbao—some of the programming will be the same—but this will change." Referring to the well-known lower Manhattan skyline, Gehry said, "I promise to be a good neighbor."

The Guggenheim decided several years ago that it wanted a new building in Manhattan, preferably on the water. The East River site is overseen by the New York State Economic Development Corporation, which will rule on the Guggenheim's proposal; if the answer is no, the city will probably help find another suitable site in Manhattan, according to Guggenheim director Thomas Krens. "I think we *will* build it," noted Gehry. *S. L.*



AIR DISTRIBUTION

formations
exclusively at METALAIRE

Art and air distribution become one.
Integrate imaginative design concepts into functional
architectural solutions. Style. Performance. Aesthetics.
Brought together utilizing the elegant lines and graceful

S — DIRECTORY — CATALOG — CD — ONLINE

Architects' First Source
CMDGROUP

E-MAIL: formations@metalaire.com **WEB:** www.metalaire.com **PHONE:** 727 441 2651

CIRCLE 21 ON INQUIRY CARD

MAYOR VERSUS COUNCIL IN SEATTLE DESIGN TIFF

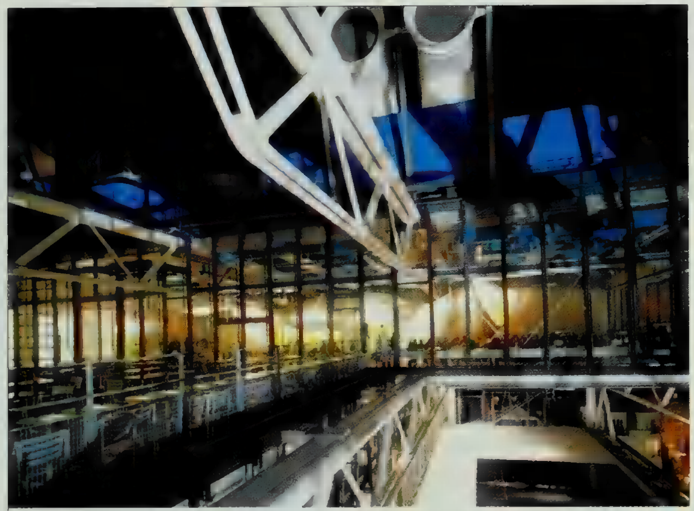
Images of tear gas, police in riot gear, and boarded-up windows during the World Trade Organization protests last November are still fresh in the minds of Seattleites considering recently unveiled plans for a new city hall. Feedback from a series of public workshops reviewing the project repeatedly revolves around the question, What is the appropriate symbolism for democracy for 21st-century Seattle?

Peter Bohlin, FAIA, of Bohlin Cywinski Jackson Architects, working with Bassetti Architects, replied with a transparent and pragmatic scheme praised by Mayor Paul Schell, HON. AIA, for its spirit of openness and accessibility. But city council members, led by Peter Steinbrueck, AIA, raised objections to the design and asked for a "stronger Northwest expression."

As proposed by Bohlin, the heart of the 183,000-square-foot, $66 million project is a glass-roofed, two-story lobby connecting the curved, metal-clad city council chambers on the south edge of the site to a six-story office block on the north. Council members oppose the 100-foot-long "catwalk" that connects their offices to the chambers. Schell's response: "Learn to walk a little bit." Steinbrueck also questions the placement of council analysts on the floor above council members in the office block.

Council members asked for three alternative designs to review by mid-May, including a scheme that would place council members and analysts on the same floor by covering over the atrium.

Also this month, Gustafson Partners, with Swift & Company Landscape Architects (both of Seattle), will also present a design for the plaza that shares the other half of the one-block site. The city hall and plaza form the centerpiece of a $226 million civic campus that includes a new $92 million municipal courthouse designed by NBBJ. Groundbreaking for the city hall is expected next spring, with occupancy in 2003. *Sheri Olson*



FASHIONABLE EATERY WITH DRAMATIC VIEWS ENLIVENS TOP FLOOR OF REVAMPED POMPIDOU

When Pompidou Center in Paris reopened in January after a two-year renovation, it was cleaner and better organized than before, though Renzo Piano and Lord Richard Rodgers' original architectural framework remained largely unchanged. What a surprise, then, to encounter Georges, a dramatic 8,200-square-foot restaurant designed by Paris-based architects Dominique Jakob and Brendan MacFarlane, on the top floor.

Charged with turning the existing museum cafeteria into a chic destination, Jakob and Macfarlane have created architecture that focuses the space without encroaching on its largely glass perimeter. Four freestanding aluminum shells rise up like molten bubbles from a brushed aluminum floor. The deformed shapes, requiring complex computer analysis in order to be built, were constructed by a shipbuilder. Each aluminum shell is lined in a different color rubber: red for the VIP lounge, pistachio for the coat check, gray for the kitchen, and yellow for a transitional exhibit space. Guests are seated along the windows to take advantage of dramatic views.

Georges is managed by the Costes family, who is also operating the new, more casual cafe in the entry atrium designed by Renzo Piano. *Claire Downey*

THE DOT LOOKS FOR "LIVABILITY" The U.S. Department of Transportation has awarded $31.1 million in grants as part of a program that it says will help make communities more "livable." The Transportation and Community and System Preservation program (TCSP) aims to deal with such issues as making transportation more efficient and reducing its sometimes harmful environmental impact, while giving new life to "brownfields." Transportation Secretary Rodney E. Slater calls it "an innovative program that recognizes the close link between transportation and the environment, as well as the importance of development for a community."

A panel of officials from the DOT and the Environmental Protection Agency picked 84 grant winners from 327 applications. Some of the grantees had a leg up in the competition through congressional "earmarks" for their projects, which lawmakers had already inserted in legislation. The awards, announced on March 17, are the second annual round of the program, which was authorized in the 1998 Transportation Equity Act for the 21st Century. That law authorizes $120 million over five years for TCSP. "I think this is a great program," says Dan Wilson, the AIA's senior director of federal affairs. "It's one of the little, hidden jewels in TEA-21." For architects, he adds, "It gets them in the game to design livable communities."

Barbara McCann, of the Surface Transportation Policy Project in Washington, D.C., says the competition "has been incredibly intense for TCSP funds." Projects haven't been developed just by planners behind closed doors, she says, but with active involvement from community groups. That participation has brought a "fresh eye" to the question of how to link transportation and land use. "It's really an incubator for new ideas," McCann says.

The largest awards in this year's round are $1.7 million for Omaha's "Back to the River" plan and $1.5 million for an intermodal facility in Richmond, Va. But most of the grants are under $1 million and are for small planning projects, such as a grant of $150,000 for an alternative land-use assessment in St. Lucie County, Fla. Applications closed Jan. 31 for the 2000 round of the program. DOT expects to announce the winners in October.
Tom Ichniowski

Record News

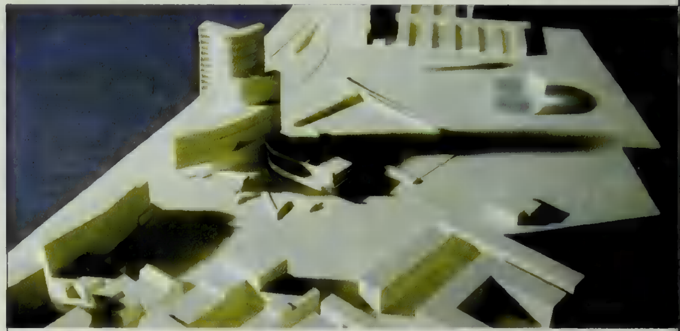
SMWM GETS BIG JOB FOR BOSTON'S BIG DIG

In 1982 the city of Boston courageously decided to reunite its downtown with the waterfront by rerouting the then-elevated Central Artery freeway underground. The project also includes the now-open new tunnel under Boston Harbor to Logan Airport and the yet-to-be-built underground connection to the Massachusetts Turnpike.

The entire mammoth project, known as the Big Dig, is scheduled to be completed in 2004. Though this date is three years away, a new question has arisen: what to do with the swath of land that will cover the new underground artery? In other words, how does one put the city together again?

In March, the Massachusetts Turnpike Authority and a panel of experts selected the San Francisco firm Simon Martin-Vegue Winkelstein Moris (SMWM), in collaboration with the Cecil Group and the Halverson Company, both of Boston, to design the urban fabric that will stitch the city back together. The team is building upon its local success in designing Post Office Square in Boston's financial district, but with the Central Artery Corridor they face a larger and far more complex task: The first phase of the work will be a year-long process of public planning and participation to master plan the huge site, identify areas to build on, develop a set of programs for the open spaces, and complete a conceptual design for those spaces.

Due to its scale and location, there is significant public interest in the project. The citizens of Boston have already weathered years of construction traffic, noise, and detours. They will surely have visions of what they want and need from the newly opened spaces. SMWM is well known for its innovative public workshop facilitation; according to SMWM principal and the project's director Karen Alschuler, "Large teams and tough urban design challenges are the lifeblood of the SMWM team." The firm has a long road ahead. *Lisa Findley*



BARCELONA FIRM TO DESIGN SCULPTURAL TOWER FOR LOCAL HEADQUARTERS OF SPANISH UTILITY

Barcelona architects Enric Miralles and Benedetta Tagliabue have won a competition to build the Barcelona headquarters of Gas Natural, a division of one of Spain's largest companies. Their dramatic, sculptural tower, a collage of curving volumes that includes a 130-foot cantilever six stories above the ground, will be built on the site of a former gasworks near the Mediterranean, between the old fishermen's neighborhood of the Barceloneta and the Olympic Village.

The competition followed guidelines established by the city in an effort to promote quality architecture in private developments. The competition was required by the city in exchange for the zoning variance that permits the building's exceptional 280,000-square-foot bulk, achieved by combining development rights from two sites. Miralles says his studio's design responds to the different scales of the structures and spaces surrounding the site (which include small apartment buildings, institutional and industrial facilities, seaside highways and train lines, and a large park) through "the fragmentation of the buildable volume into a series of constructions." But he notes that these fragments will, "in the end, form a unified whole."

He describes the building's soaring cantilever as "a great portal" to the intimate streets of the Barceloneta. The curving, horizontal cantilever, hairpin-shaped in plan, is counterbalanced by the vertical volume of the 20-story tower. Their fenestrated facades are enclosed in translucent screens that serve to filte sun, air, and noise. The facades are punctured by overscaled windows.

While the building is considerably smaller than the nearby twin towers of the Olympic Port, its formal energy assures it a prominent place on the Barcelona skyline. *David Cohn*

HERZOG & DE MEURON GO FOR A WALKER **For its proposed 110,000-square-foot, $50 million expansion, the Walker Art Center in Minneapolis selected Herzog & de Meuron, a firm based in Basel, Switzerland, whose latest design direction intertwines with the current museum mission.**

The Edward Larrabee Barnes–designed Walker, of 1971, is essentially a series of windowless, rectilinear galleries radiating from a stair and elevator core and sheathed in a plum-colored brick. In this inward-looking building, daylight and views outward are negligible, a restraint culminating in the museum's rooftop terrace galleries. The Minneapolis Sculpture Garden, an 11-acre front porch inaugurated in 1988 and expanded in 1992, manifests a more inviting and inclusive attitude.

The sculpture garden not only highlights the Walker's renowned collection, it better integrates museum and community. This perspective will guide the proposed expansion, to be completed by 2005. Herzog & de Meuron's innovative building skin and glazing will stand in radical contrast to the opaque Walker. At the same time, the expansion promises an architectural transparency to signal the Walker's goal of creating a "town square"—a public gathering space centering on a facility that will double in size.

In addition to the Walker itself, two distinctive modern buildings must be considered in expansion plans. The Allianz Building, a 1947 office facility recently purchased by the museum, might be integrated. The Walker also owns land occupied by the Guthrie Theater (designed by Ralph Rapson in 1963), tethered to the museum by a common lobby. The Guthrie's plans for a new, separate building have provoked debate over the status of its current home.

These issues will be addressed when expansion concepts are unveiled within the next six months. It is hoped the architects won't encounter the kind of resistance to their ideas that led to their recent resignation from a commission to design an art museum at the University of Texas [December 1999, page 67]. ***Todd Willmert***

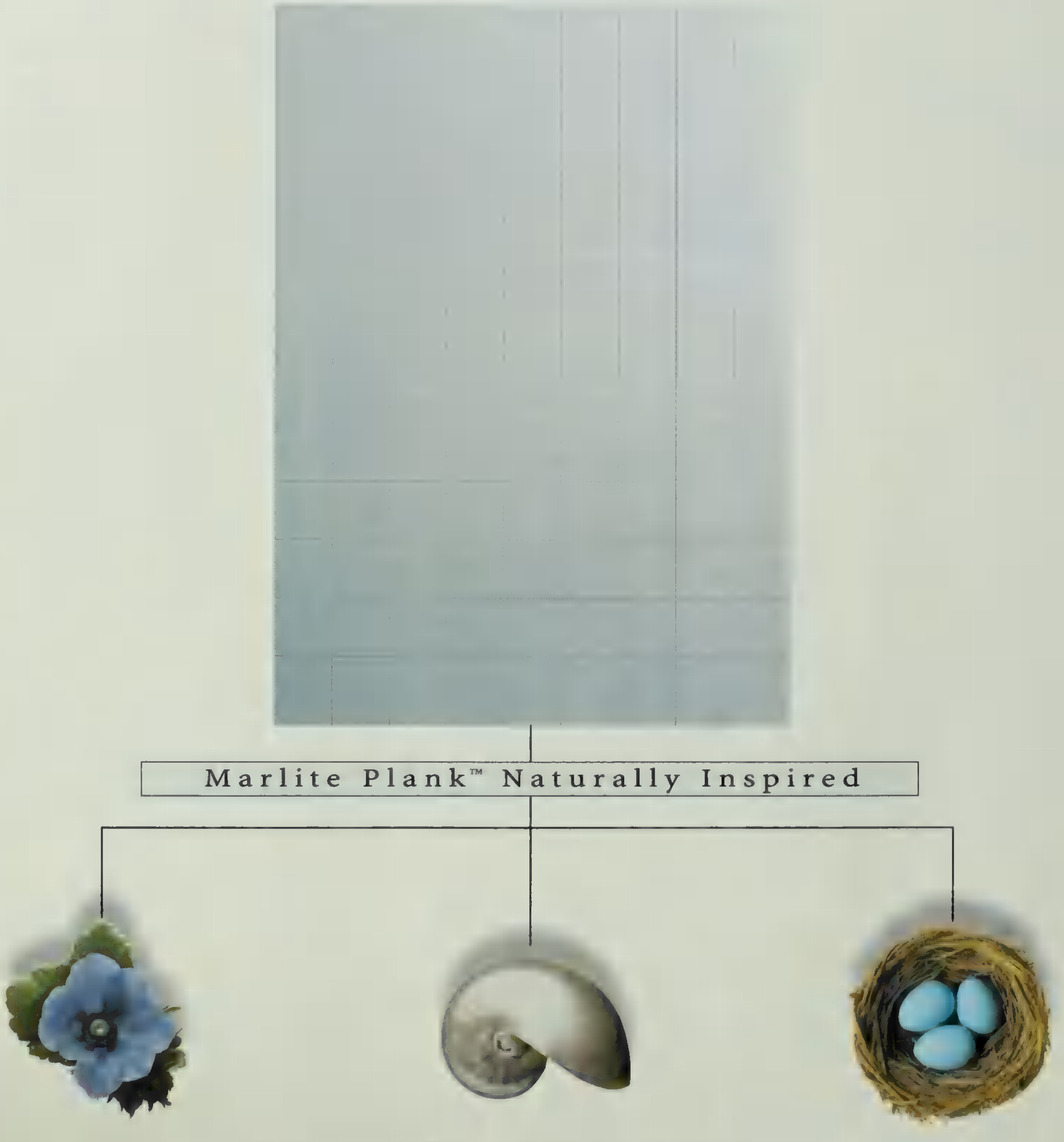
Anything less than **BEGA**, is.

www.bega-us.com

Recessed wet location ceiling luminaires
with stainless steel perforated baffle and trim.
Incandescent and Ceramic Metal Halide PAR lamps.

Circle No. 22

Natural instincts



The song of a bird. The rush of the tide. The sweet smells of summer linger in the back of our minds. And the delicate hues of the natural world around us serve to color our thinking.

CIRCLE 23 ON INQUIRY CARD

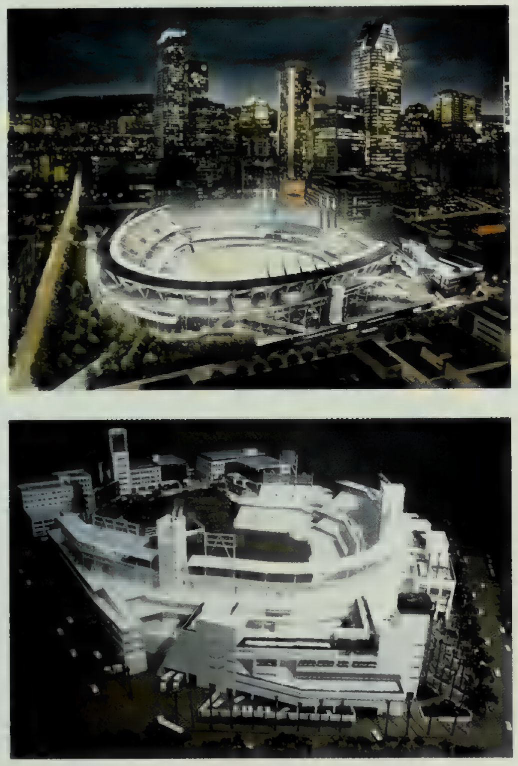
Marlite Plank has long been recognized for its highly durable, easy-to-maintain finishes. Now, an ever-expanding palette of contemporary patterns, solids and woodgrains offer more aesthetic choices than ever before. The 16" wide planks can be scored with a grid pattern, or vertical scorelines only. Contact us today for more information about Marlite Plank.

Tongue and groove planks install easily to subwall with adhesive and clips.

Marlite

(330) 343-6621 Fax: (330) 343-7296
w.marlite.com e-mail: info@marlite.com

STADIUM PARADE GOES ON WITH MONTREAL, SAN DIEGO DESIGNS



New baseball stadiums will soon be drawing fans in Montreal (top) and San Diego (bottom).

In the continuing effort by North American cities to boost downtown renewal and generate income from new sports stadiums, San Diego and Montreal have turned their attentions to baseball. Each town is using dramatic but intimate architecture to give fans more reason to take in a ballgame.

Antoine Predock, FAIA, has designed a new San Diego ballpark—construction of which begins this month—that he hopes will merge with the urban setting and surrounding natural landscape. His scheme avoids what he terms the "retrostadium" idiom (e.g., Camden Yards), as well as the modern freestanding object (e.g. Yankee Stadium). Situated downtown, near convention and warehouse facilities, the 44,000-seat stadium will have both an urban and a soft edge.

With a layered urban facade and tiers of stacked bleachers, Predock intends to create topological complexity while maximizing commercial and retail space: 400,000 square feet of mixed-use space is tucked into the envelope. The landscape element is amplified by Centerfield Park, a public park just beyond the outfield wall. Five entrances create varied processional experiences. The primary entry plaza features wide stairs, a water cascade over a sandstone wall, and a palm court. Metaphorically, the stadium design alludes to the distant landscape—the ochre stone terraces of Torrey Pines Bluff—in materials and forms.

As design architect—the project also involves landscape architects Spurlock Poirier and architects HOK Sport and ROMA, which devised the district plan—Predock knit together the multifaceted program within the larger context of an urban design plan. Parking structures, light rail, coaster train, and pedestrian systems will converge to provide varied intermodal access to this architecturally diverse, anti-monumental arena.

A new home for le baseball

The owners of the Montreal Expos are constructing a 36,287-seat stadium for the baseball team in the city's downtown core, a five-minute walk from St. Catherine Street, the main commercial thoroughfare. The open-air stadium, designed by Provencher Roy et Associes Architectes, will include private boxes, an exclusive club from dugout to dugout at field level, underground parking for about 650 cars, commercial space, and office facilities for the baseball club's management. The venue will be ready for the 2002 season.

Following the trend set in such cities as Baltimore and Cleveland, Claude Provencher says the stadium is intended only for baseball games: "It's not a big stadium—it's very intimate. The budget ($135 million) is lower than any comparable stadiums built in the U.S. over the past 10 years."

The envelope is made mainly of steel and glass, with concrete stands and floors. "We were conscious of the cost, but also ambience. A low budget doesn't necessarily mean cheap," notes Provencher. The Expos now use the Olympic Stadium, which, Provencher says, isn't ideally shaped for baseball games; it also has a fixed roof, which means fans have to watch games under partial cover during pleasant weather.

Provencher's firm, which won the commission in a local competition, has also designed tennis and football stadiums in Montreal. *Gavin Keeney (San Diego) and Albert Warson (Montreal)*

PHOTOGRAPHY: © PROVENCHER ROY ET ASSOCIES ARCHITECTES (MONTREAL); ANTOINE PREDOCK ARCHITECT

SPEAKMAN
www.speakmancompany.com
1.800.537.2107

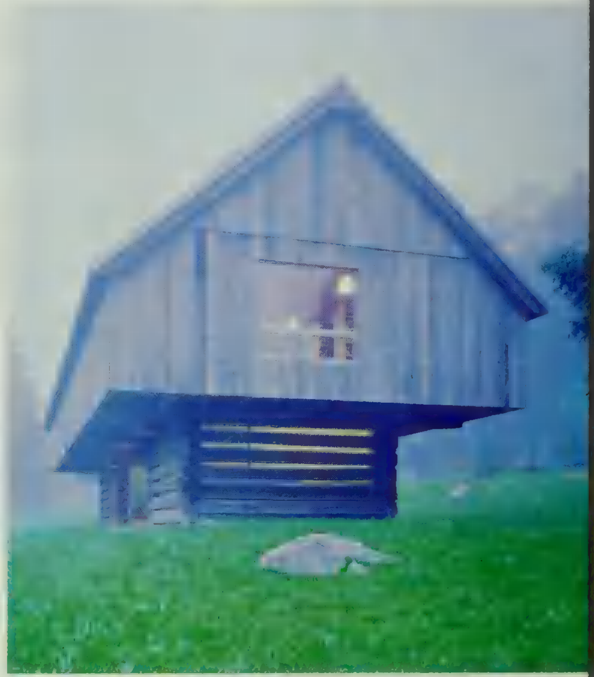
CIRCLE 24 ON INQUIRY CARD

LIN FINDS NEW USE FOR OLD BARN AT LANGSTON HUGHES LIBRARY

On the grounds of the Children's Defense Fund (CDF) retreat and conference center in Clinton, Tennessee, stands a building that resembles a stocky figure shrouded under a large umbrella. The "cantilever barn"—so-called because the horizontal beams of the upper level loft extend well beyond the vertical supports of the two animal pens beneath—speaks the architectural vernacular of 19th-century East Tennessee, a plain language of silvery, time-worn siding, rough logs, and minimal geometries.

The barn's unusual form compelled designer Maya Lin to recycle it when the CDF retained her to design a library for its 157-acre site. The library honors Langston Hughes, the poet laureate of the Harlem Renaissance, and is located on the former farm of novelist Alex Haley.

"I'd never seen a shape like that before and wanted to save it," Lin says. "Once I realized that the book collection was small and the library would be used as an intimate gathering space, I came up with the concept of an elevated reading room."



Lin's library concept involved deconstructing an old barn exterior an then reconstructing it around a new steel skeleton.

A new use for tradition

In sliding a new library into a 19th-century architectural tradition, Lin turned a design stereotype—a Shaker chest in a Modernist living space—inside out. Here, its envelope is an artifact of folk functionalism and its interior the self-conscious expression of a complementary ethos.

Lin worked with Margaret Butler of Martella Associates, the Knoxville firm that served as architect of record, to deconstruct the barn exterior and reconstruct it around a new steel skeleton. External clues that what lies within is strictly contemporary include large skylights in the new standing-seam metal roof and broad panes of glass on the loft's gable end that open up sightlines to the nearby pond. Most dramatic is the lining of translucent glass inside the former ground-level pens, which now contain a tiny gift-and-book shop on one side and stairs and elevator on the other. In Butler's words, the glass between the unchinked logs "glows like a Chines lantern" at nightfall.

A contemporary interior

Lin has crafted an interior featuring maple floors and particle board panels for the walls and ceiling. She also designed the library's furnishings, using budget materials such as a soybean-base particle board for the table tops that reads as blue granite.

"I wanted to make a real cut between outside and inside," Lin says. "There didn't seem to be much point in preserving the rustic feel of the barn's interior" because the new functions were to be so different from the old. The library was dedicated last year and houses 4,000 volumes c African-American literature and history.

Lin now has another commission from the CDF—a chapel, which is currently in the schematic design phase. According to her studio design assistant, Nicole Pillorge, the program an construction dates are still in a "liquid state. Only the shape is determined." Lin describes the form as "a nun's hat." To Pillorge, it resembles "a ship's hull," with a ceiling of curving ribs and bowed walls of laminated wood. Either metaphor, like th barn-turned library, illustrates Lin's ability to recognize the sculptural possibilities of architecture. *Christine Kreyling*

It's either the wettest
spot on earth or the driest.
Depending which side of our window you're on.

Dan Stokes,
Product Testing Manager

It doesn't rain all the time in Bend, Oregon. Only when Dan Stokes wants it to. You see, Dan tests the seals of our wood windows to help ensure your customers' satisfaction. Thus, the 8 inches of rain per hour. Hurricane force, 155 m.p.h. winds, and countless other Dan-made extremes. Thanks to a sturdy 20/10-year warranty,* our windows are an attractive choice you can live with. After all, they've already had to live with Dan.

POZZI
WOOD WINDOWS®
Part of the JELD-WEN® family

HANDCRAFTED IN BEND, OREGON.™
CIRCLE 25 ON INQUIRY CARD
Free catalog: 1-800-257-9663 ext. P10.
Or visit us at www.pozzi.com

*For limited warranty details, please see our website at www.pozzi.com. ©2000 JELD-WEN, inc. Pozzi Wood Windows is a registered trademark of JELD-WEN, inc. [illegible]

Italian stone...

Discover the Possibilities of building with the "World's Finest Stone" at the AIA 2000 in Philadelphia
FREE Seminars daily in booth #224
and FREE Marmora books with ASTM
Marmora
www. marblefromitaly .com
Italian Trade Commission
Tel. 323 879 0950

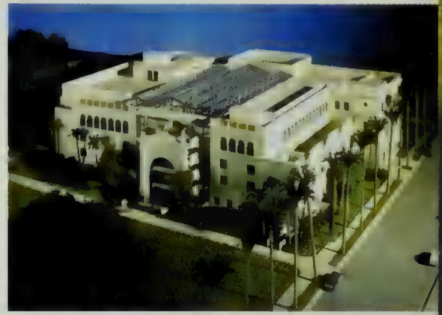
CIRCLE 26 ON INQUIRY CARD

LANDMARK SAN DIEGO MUSEUM PLANS TO DOUBLE IN SIZE

The San Diego Natural History Museum is bursting at its seams, but not for long. Thanks to a $38-million expansion and renovation, the museum will more than double its size and triple its exhibition space. This is welcome news for a 1930s historic landmark that's cramped for space, as only one phase of the original six-phase master plan was completed. When the Depression hit, plans to add to the 65,000-square-foot museum were scrapped, as were all subsequent expansion attempts.

An atrium above and new space below

The most striking feature of the expansion will be a six-story glass-roofed atrium, which could become "one of the major civic rooms in San Diego," predicts Richard Bundy, FAIA, whose San Diego firm, Architects Richard Bundy & David Thompson, designed it. Since the amount of land for the expansion was limited, the architects also placed 35,000 square feet of the new structure underground.



The most striking feature of the expansion will be a six-story glass-ceilinged atrium.

During the five-year planning phase, the architects held about 200 meetings and conducted a three-day design charrette seeking input from museum staff and community leaders. The firm had a 5,000-entry mailing list for the project. "We accommodated and incorporated 90 percent of the ideas people had into the building," Bundy says. His firm also sought approval from local, state, and national historic preservation officials—a process that took more than two years. The expansion is scheduled for completion in July 2001.

The museum, originally designed by San Diego architect William Templeton Johnson, is located in Balboa Park, on the edge of the business district. *Susan R. Bleznick*

RETAILER FINDS DENVER HOME IN A POWER HOUSE When executives from Recreational Equipment (REI), the Seattle-based outdoor gear-and-clothing retailer, first laid eyes on Denver's old Tramway Power House building, it was love at first site. Built in 1901 to supply coal-generated power to the city's trolley car system, the red-brick, neoclassical structure had served as a transportation museum since 1969, but was in horrible condition—water, asbestos, lead, and ash had damaged or contaminated many sections—and the owner had decided to sell. REI was convinced that the mammoth building, on the South Platte River not far from downtown, would make the perfect home for one of its giant flagship stores. Two years and $20 million later, the 90,000-square-foot structure has been transformed into a showcase for environmentally sensitive historic preservation.

Mithun Partners, which designed REI's much-celebrated Seattle flagship store (March 1997, page 94), restored the building's crumbling exterior to its original design. Inside, the firm left intact many elements, including riveted steel braces and an old coal hopper, while adding stairs, skylights, display areas, and additional bracing. Reclaimed timbers from an abandoned mine became stair supports. Particle board made from post-industrial waste went into wall elements, cabinets, and merchandise fixtures. Large skylights now allow ambient electric lighting to automatically shut off when sunlight reaches certain levels.

Visitors enter the Denver store at the very spot where train cars used to unload coal. Inside the sprawling building, shoppers may take advantage of some of the same "entertainment retail" features incorporated into the design of REI's Seattle store, including a "cold room," where customers can test parkas in sub-zero temperatures, and a 45-foot-high rock climbing tower (right). "We tried to make the top of the pinnacle [of the tower] a mile high," laughs Jerry Chevassus, REI's vice president of store development, "but we found out that it would have to go about 10 feet above the roof." *David Hill*

hansgrohe

Hansgrohe has been at the forefront of innovation for many decades. Our self-cleaning function Quick-Clean™ is yet another testament to this continuous stream of technological advances produced by our engineers.

Keeping a showerhead clean has never been as simple as with Quick-Clean. Every time the spray mode is changed, an array of pins extend through the spray holes and mechanically dislodge any debris or mineral deposits that are clogging-up the spray channels.

Hansgrohe, Inc. ▪ 1490 Bluegrass Lakes Pkwy • Alpharetta, GA 30004 ▪ Tel. 770 360 9880 • Fax 770 360 9887
www.hansgrohe-usa.com

CIRCLE 27 ON INQUIRY CARD

We Make Restrooms

Showers & Concession Buildings

Specify Romtec pre-engineered buildings with confidence. We offer:

- AutoCAD® drawings & specs by email
- Same-day quotes & install estimates
- Complete building kits to your site
- Prompt, professional service

Call for FREE Video & Catalogs
541-496-3541

ROMTEC
Restroom Design & Engineering Specialists
www.romtec-inc.com
Email: romtec@rosenet.net
© 2000, Romtec, Inc.

CIRCLE 28 ON INQUIRY CARD

ARCHITECTURE TO THE RESCUE: TURKEY'S ISRAEL VILLAGE

Winter was just two months away when Israeli Defense Ministry officials offered to help provide temporary housing for victims of last August's devastating earthquake in northwestern Turkey. With a basic program, they turned to U.S.-educated Israeli architect Shalom Kelner, 62, to design the project on the outskirts of Adapazari, now known as the Israel Village.

Kelner believed a semblance of normalcy would return only if he provided a renewal of community life: a school, a clinic, playgrounds, parking areas, and spaces for social interaction. Fabricated in Israel, the units had to be sturdy enough to withstand shipping. Kelner chose used marine shipping containers as his basic building blocks: he joined two containers lengthwise to form each 320-square-foot dwelling unit. Twelve units around a square courtyard compose a dwelling cluster that fosters neighborly relations and children's play.

Each unit includes two bedrooms, a bathroom with toilet and shower, and a multipurpose area with a kitchenette and dining space. Sheetrock insulation with gypsum-board facing provides protection against the cold, and the double wall muffles sounds between the bedrooms. A vestibule between the entry and an interior door allows for wet clothing removal and the local custom of removing one's shoes before entering the home.

Every detail was discussed with Turkish officials so as to meet local needs. Furnished with basic amenities, each of the 312 dwelling units cost $15,000. The Israeli government put up approximately $4.8 million for the project, and another $1 million came from the Israeli public and Jewish and Israeli organizations.

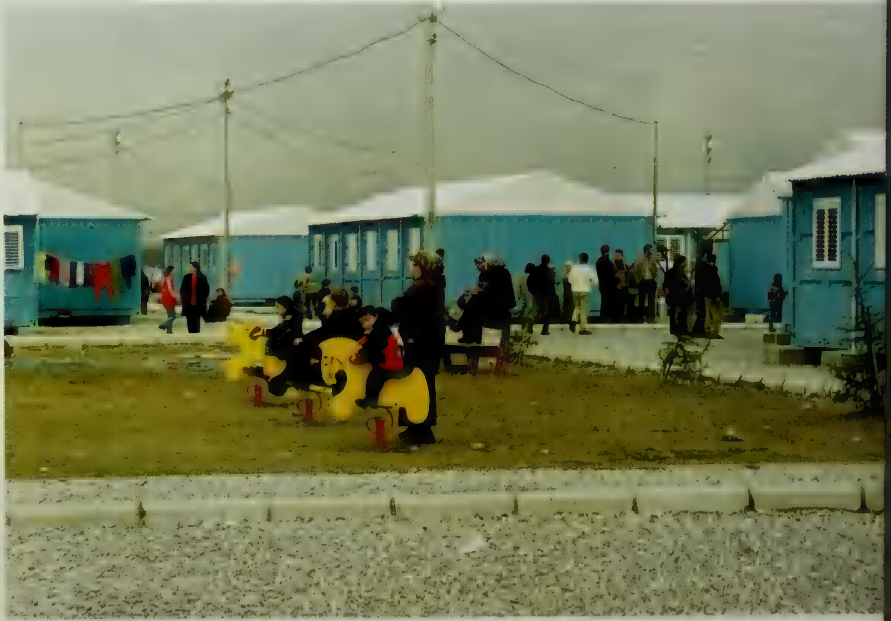
Kelner incorporated the use of color on the exterior, in keeping with local architecture. The colors now help residents locate their homes. The plan also provided for a 10-classroom school, with each classroom built of four containers.

Crowded, but working

Late last October, the Village was inaugurated by the Israeli and Turkish prime ministers. Though as many as 17 inhabitants have crowded into a single unit, originally planned to hold six people, the process was deemed a success. Turkish architects and builders have been impressed by the project's emphasis on communal interaction, which tends to be underemphasized in their country's urban planning.

In mid-March, Sefanur Aydin, 30, sat sharin a cup of tea on the steps of her new neighbor's home. "It's amazing how much the neighbors help," she said. "If you have an emergency, you open a window and call your friend," added Fethi Sen, 66. Elsewhere, an outdoor engagement party was in full swing.

Wooden lean-tos, curtains, TV antennas, an flowering plants are all signs that the Israel Villag is becoming home. *Esther Hecht*

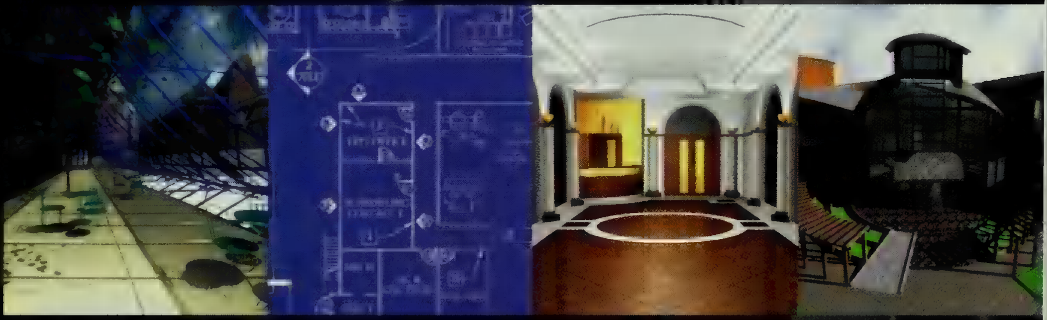


Communal interaction, not stressed in Turkish urban planning, is a priority at the Israel Village.

www.vectorworksarchitect.com
1-888-646-4223

VectorWorks ARCHITECT

Delivers the promise of Architectural CAD



"VectorWorks ARCHITECT is a great program...I am currently getting re-trained in AutoCAD Architectural Desktop Revision 2...and it just doesn't stack up to VectorWorks ARCHITECT." —Edward Koenig, Carmelhill Drafting Studio

Isn't it about time someone addressed the promise of CAD? Introducing VectorWorks ARCHITECT

Engineered and built by professionals in your discipline, ARCHITECT delivers on the promise of architectural CAD. It does everything CAD was supposed to do but didn't quite. Truly a better way to design, ARCHITECT integrates Design, Production and Project Management into a system that delivers unparalleled productivity—all at a price even the smallest firm can afford.

INTEGRATION

- Complete integration of your 2D plans, 3D models, reports, schedules & client presentations
- Scalable CAD standards make it easy to structure & manage documents

DESIGN

- Unprecedented tools for programming studies and analysis
- Thousands of "Intelligent" building Objects & 2D/3D architectural symbols
- State of the art Solar Animator

PRODUCTIVITY

- An easy system for archiving, placing, & managing notes
- Automatic creation of reports & schedules
- Project Management features including issue management, error & revision control, & workgroup referencing

Special Offer to Readers of ARCHITECTURAL RECORD

Save over $180 by purchasing VectorWorks ARCHITECT direct from Diehl Graphsoft for $1395 or without photorealistic rendering for $1140. Includes FREE Tech Support & a 90-Day Money-Back Guarantee.
*Existing VectorWorks users call for upgrade pricing.

Diehl Graphsoft Inc
Software for Today's Professional

CIRCLE 29 ON INQUIRY CARD

Have Lunch With Southern Pine

Lunchtime learning is the new rage at more offices of architects and engineers, where the staff enjoys a free brown bag repast while listening to a lively briefing on the uses of Southern Pine lumber.

It's the closest thing to a free lunch you'll find anywhere.

On the menu for your selection: lumber seasoning and grading, the latest design values and span tables, pressure-treated wood, engineered wood products, code conformance, timber supply and environmental stewardship, plus case studies of residential and light commercial construction using Southern Pine.

For dessert: a sprightly question and answer session.

Architects and engineers like the fact that we present a solid *how-to* technical, session on an essential building material, rather than a promotional pitch. You can earn continuing education credits, too.

Contact us if you'd like to have lunch with Southern Pine... we offer quite a menu!

SOUTHERN PINE COUNCIL

504/443-4464 FAX 504/443-6612
Box 641700 Kenner, LA 70064
www.southernpine.com

Wood: The Renewable Building Material

CIRCLE 30 ON INQUIRY CARD

ARCHITECTS TRY A NEW TUNE WITH RECORDING STUDIO DESIGNS

TK Studios overlooks the water in Hawaii.

It may not be a building type as prominent as museums or schools, but architects are delving more into a relatively unsung field: recording studios. Most big city music facilities still have a generic cavelike feel, but some star record producers are creating vanity studios with an eye toward a more transparent, contemporary aesthetic.

In Vancouver, Canadian pop star Bryan Adams bought a derelict building in the Gastown neighborhood and converted it into Warehouse Studios. The old facade was kept in place, providing an unassuming industrial exterior that fits its historical context—and disguises the fact that within the brick walls is a high-gloss, world class recording facility. Vancouver's Davidson, Yuen and Simpson carried out the renovations.

Meanwhile, Studio Bauton, based in Los Angeles, has completed a studio in Hawaii for Tetsuya Komuro, a Japanese producer. The architects transformed a marina restaurant by installing recording spaces on two floors, adding skylights and windows to take advantage of the sunny climate, and moving the entrance to the water's edge, creating better access to an exterior deck. "The challenge was to insert a highly technological program into a low-quality, existing space in a demanding location," says Peter Grueneisen, principal at the firm. *George Richardson*

Inside the lobby at Warehouse Studios.

HUNGARY FINDING ALTERNATIVES TO SOVIET STYLE A number of Hungarian architectural firms have found a new market for their talents by designing residential parks for the country's emerging, newly affluent middle class. Approximately 2 to 3 million Hungarians, or about 20 to 30 percent of the population, live in vast, somber Soviet Realist complexes—blocks of buildings constructed of prefabricated concrete panels. Budapest studios like Vadász & Partners, commissioned by banks and private developers, are now providing options, for those who can afford them, in the form of lákoparks—small communities of houses and apartment buildings in landscaped, park-like settings.

A typical lákopark may include individual row and two-story houses and two- and three-story buildings housing from under 10 to almost 30 apartments. Designs vary: "The most well-received has been the Weimer Bauhaus style of 1927," says György Vadász of Vadász & Partners. "It's a lighter style, playing with light and shadows by using snow-white walls variegated with glass panels, and incorporating large open terraces at the ground level and roof terraces with gardens and outdoor showers." Other Vadász-designed residential parks, like one under construction in Szolnok, southeast of Budapest, are more contemporary. Whatever the style, "we try to go beyond meeting the pure technical requirements of each project to satisfy the needs of the spirit behind the materials; concrete, brick, reinforced concrete, some stone, lots of glass, whitewashed walls, and white steel balustrades," says Vadász.

Vadász and his team also won a nationwide competition to design the Hungarian pavilion at EXPO 2000, opening in Hannover. Germany in July. ***Carl Kovac***

Miele delivers.

Realizing your architectural vision requires design flexibility from the components you specify. From a collection of ventilation hoods and cooking products that are as elegant as they are functional, to the world's first built-in coffee system. From a dishwasher so fully integrated that it's invisible, to laundry systems that can be configured to any environment. Miele offers technological solutions to satisfy both the designer and the most demanding client. Without compromise. This dedication to quality and innovation is matched only by our commitment to comprehensive service and support.

For assistance in specifying Miele for your next project, or to access the many other services of the Miele Architects & Designers Resource Group, call 800-843-7231, or visit us at www.mieleusa.com.

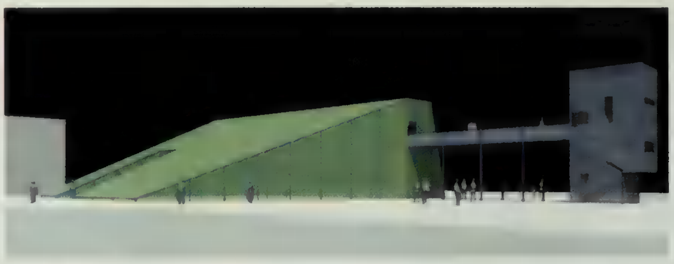
Miele
ARCHITECTS & DESIGNERS
RESOURCE GROUP

Princeton • Beverly Hills • Boca Raton • Dallas • Northbrook • San Francisco • Wellesley

CIRCLE 31 ON INQUIRY CARD

News Briefs

Cleared for takeoff The already-hot airport design and construction market will get a further boost from a $40-billion aviation funding bill that President Clinton signed into law on April 5. For architects, the major provision is one that permits airports to raise passenger facility charges (PFCs) to $4.50 per flight segment, from $3. Airports use revenue from PFCs to fund such projects as new terminals (PFC volume totaled $1.48 billion in 1999). The legislation also authorizes $3.2 billion for Airport Improvement Program construction grants in fiscal 2001, up 69 percent from 2000.


The winning entry in a competition to design a "gate" for San Francisco State.

In memoriam The Oklahoma City National Memorial was dedicated on April 19, on the fifth anniversary of the bombing of the Alfred P. Murrah Federal Building. The memorial's design, won in a competition by Cambridge, Mass.-based Butzer Design Partnership, involves a block-long reflecting pool surrounded by grass and trees, including an elm known as the "survivor tree" because it made it through the blast. The facade of a newspaper building adjoining the site is preserved, but a new structure behind it will eventually house a museum slated to open late this year. The names of survivors are listed on the Murrah building's only remaining wall, and 168 empty chairs with lighted glass bases are organized in nine rows, representing the floors on which the victims died. Congress has designated the memorial as a part of the National Park System.

The Kingdome is dead Flashes of explosives ringed Seattle's Kingdome in late March before it imploded in a cloud of pulverized concrete—to the cheers of crowds happy to see a blight on the city's horizon go down (for footage, go to www.firstandgoal). The blast registered 2.3 on the Richter scale as 4,461-pounds of dynamite flattened what was the largest self-supporting thin-shelled concrete roof in the world. The 30-foot-high pile of rubble will be recycled into foundations for Ellerbe Becket's new $425 million open-air football/soccer stadium being built on the site in time for an August 2002 kickoff.

A new gatekeeper Julio Cristian Rocha, a 28-year-old architect at Stastny-Brun Architects in Portland, Oregon, has won a competition to design a "gate" for San Francisco State University. The structure will serve as the main entryway to the center of campus at one of San Francisco's busiest intersections. Rocha's design consists of a simple form that rises from the campus axis, showing a 30-foot-high face to the city. The gate creates two distinctive entrance points and carves out a new public space.

Force of Habitat The judges of the Young Architects Forum/Habitat for Humanity Prototype for the New Millennium competition cited a group of winners in April. The national competition involved the design of a new housing prototype for Pulaski Town, in Philadelphia's

Homasote 440 Sound Barrier Replaces Lightweight Concrete for Sound Deadening in Floors.

Sound Barrier works with almost any conventional flooring system and has twice the "R" value of wood. Unlike lightweight concrete, it can be installed quickly and easily by the same crew laying the floor. This makes 440 Sound Barrier the faster, lower-cost alternative.

Proven Effective in Independent Tests.

Homasote's sound-deadening qualities are proven in independent tests by NVLAP certified labs. Millions of square feet installed across the country testify to its superior performance in place of lightweight concrete. It won't crack, break or "dust up." Ever.

And now the system is UL fire rated (fire resistance classification in all No. L500 floor assemblies. See UL fire resistance directory.) **Contact Homasote for a complete listing of sound and fire tests.**

ENVIRONMENTALLY SAFE

Better for the Environment.

Of course, Homasote products are made from 100% recycled newspaper, with no asbestos or urea formaldehyde additives.

Homasote 440 Sound Barrier is the new standard in sound deadening. For more information, contact us at **800-257-9491**, or visit us at www.homasote.com.

440 SOUND BARRIER™
Acoustical Control Systems
Sound Deadening That Will Floor You.℠

homasote
COMPANY
800.257.9491
www.homasote.com

CIRCLE 32 ON INQUIRY CARD

Visit us at AIA Booth #714

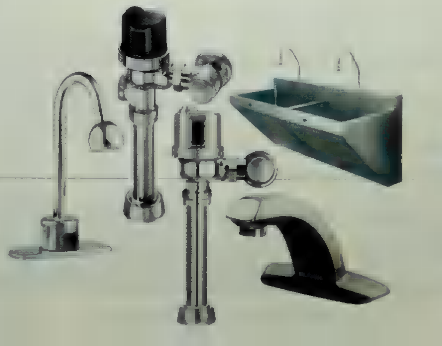
WHY METREON–A SONY ENTERTAINMENT CENTER RELIES ON SLOAN FLUSHOMETERS AND FAUCETS

The recently opened METREON–A SONY ENTERTAINMENT CENTER chose Sloan Optima® Plus Flushometers that integrate electronics and time-tested hydromechanics. For example, Sloan's Perfect Sense® EL-1500 Optima sensor utilizes advanced electronics that adjust automatically to surroundings. Sloan Optima Flushometers have their own LED diagnostics. The Optima system automatically flushes after 24 hours of non-use assuring fresher restrooms.

Sloan's Optima PLUS® EBF-85 faucet was chosen because it is the world's first battery operated fiber-optic faucet. It blends fiber-optic and infrared technology to sense user's hands. It also adjusts to its changing environment without manual adjustment and emits an audible signal when the battery life is low.

Sloan's electronic products match the sophisticated environment of this 350,000 sq. ft. technology, entertainment center which boasts the most powerful and interactive web site on the internet today, **www.METREON.com.**

Learn more about why entertainment centers rely on the performance of Sloan. Call **1-800-745-0800** or circle the number below for a copy of our full-line catalog/CD-ROM.



SLOAN®

Sloan Valve Company
10500 Seymour Avenue • Franklin Park, IL 60131
Phone: 800-745-0800 • Fax: 800-447-8329
www.sloanvalve.com

CIRCLE 33 ON INQUIRY CARD

Germantown section, with a goal of establishing a prototypical design for new construction, while strengthening the neighborhood as a safe and clean family environment. Kenji Suzuki of New York City's di Domenico + Partners took the Award of Excellence, while Craig Eigenberg, Mimi H. Tsai, Danielle Denk, and Daniel Powell garnered Awards of Merit. Habitat for Humanity/Germantown plans to use Suzuki's concept to build new housing. The winning entries will be displayed this month at the AIA convention in Philadelphia.

What, no hot water? Those who long for the good old days can watch WNET's four-part television series, "The 1900 House," which begins airing on PBS on June 12. In the documentary, a British family volunteers to live for three months as Victorians in a circa-1900 suburban London rowhouse that has been stripped of modern conveniences. Architects will be particularly interested in the first installment, when preservation experts peel away improvements made over the last 100 years. Then watch as the family discovers the joys of chamberpots, corsets, daily deliveries of meat and produce, and a seemingly endless supply of dust and grime from their coal-fired stove, boiler, and gas lamps.

Museum moves Wendy Evans Joseph, AIA, has been named design architect of the new National Jazz Museum in Harlem. The museum board is now searching for a site in the 125th Street area of the Manhattan neighborhood. Joseph recently designed the Women's Museum: An Institute for the Future in Dallas, which is expected to open in September. Meanwhile, New York is planning its own women's museum: Governor George Pataki has proposed building a $125 million museum in Battery Park City near the southern tip of Manhattan. Advocates for the museum are planning to raise the bulk of the budget from private donations. The new museum, known formally as the Museum of Women: The Leadership Center, is still in the planning stage, but early drawings have been completed by Ralph Appelbaum Associates.

Class act The Beebe School, a K-8 facility in Malden, Massachusetts, designed by the Boston-based Flansburgh Associates, has won the Walter C. Taylor Award for school design. The honor, co-sponsored by the AIA, the American Association of School Administrators, and the council of Educational Facility Planners, honors outstanding planning and design solutions in educational environments.

Italian ideas After an international competition, David Chipperfield Architects of London has won the commission to design the "City of Cultures" in Milan, Italy. The project involves transforming ar abandoned industrial area by building new museums, including a new archaeological museum, a "center for non-European cultures," and a center for the study of visual arts.

Design detente American and Chinese architects will soon have new freedom to work in each other's countries. The terms of the "international cooperation agreement" ratified last year by the National Council of Architectural Registration Boards (NCARB) and the National Administration Board for Architects Registration (NABAR)—the counterpart of NCARB in the People's Republic of China—will become effective July 1 The most important of the terms specifies that an American or Chinese architect who seeks to practice in the other's country may not render professional services without the "material participation" of a "domestic" architect from the local jurisdiction.

Automatic closing fire doors

Cornell's motor or chain operated FireGard™ systems offer a new generation of safety features

The dependable, slow-closing, **motor-operated** M100 FireGard system is the first choice for large and/or recessed doors where mechanical testing/resetting is impractical.

The FireGard EZ Test 'n Set offers both controlled **automatic closing** and chain operation for **cost savings** in installation and operation.

Plant personnel can test/reset either system from the floor in minutes. Both systems may be **retrofitted to existing doors.**

For video demos, details and drawings, literature, specifications, or consultative design support on all FireGard doors, counter fire doors, and accessories, please use **toll-free** access via telephone, fax, or e-mail.

Visit our interactive website for downloadable AutoCAD drawings, specifications in CSI MasterFormat™, and more

www.cornelliron.com

Tel: 800.233.8366, ext. 551, 641
Fax: 800.526.0841
E-mail: cornell@cornelliron.com

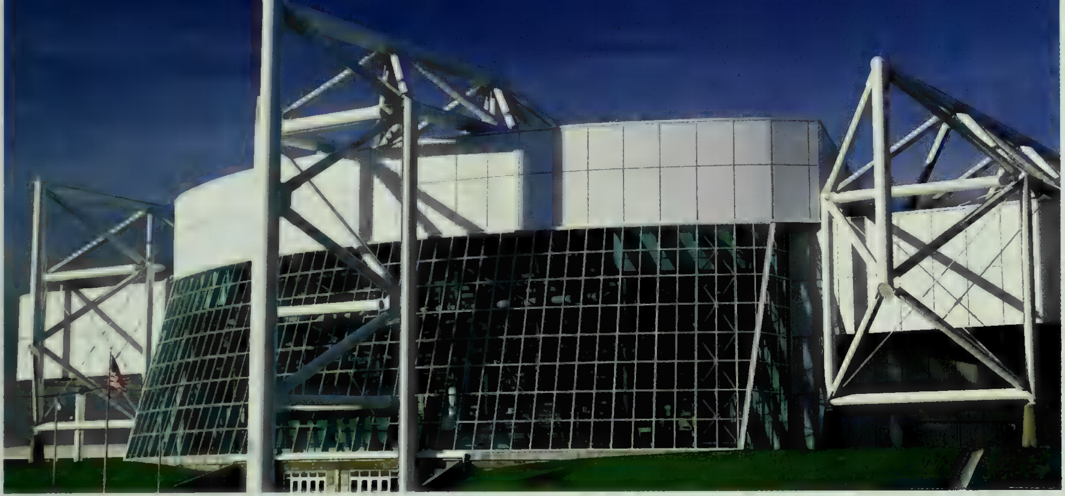
See us at
AIA Booth 938
CSI Booth 1623-25

Rolling door specialists
CORNELL
IRON • WORKS

New solutions.
Since 1828.™

AIA/CES Earn credits by attending Cornell's ROLLING CLOSURE PRODUCTS program. No charge.
Contact Michael Simon at Cornell for scheduling.

CIRCLE 34 ON INQUIRY CARD



Product:
EFCO Series 5800 Silicone Gasket Curtain Wall System (formerly Don Reynolds Curtain Wall System)

Building:
Kemper Arena,
Kansas City, MO

Architect:
H.N.T.B. Architects

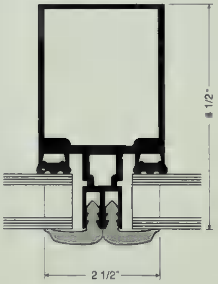
Erector:
Building Erection Services Co.

SILICONE GASKET CURTAIN WALL THAT GIVES FLEXIBILITY OF DESIGN WITHOUT PERFORMANCE CONCERNS.

FLEXIBILITY

It's our silicone gasket that makes the difference.

In fact, EFCO® Series 5800 (formerly Don Reynolds®) structural exterior-glazed curtain wall is the only system with a durable silicone gasket that is impervious to harmful U.V. rays, water, temperatures, and atmospheric pollutants for the lifetime of the building. And Series 5800 delivers a superefficient seal with zero water infiltration.



Infill thicknesses range from .25" to 2"

Our gasket comes in standard colorfast shades, or you can specify custom colors. With this narrow sightline system, you can design curved walls using flat infills up to 7° off-axis, or create slopes down to 20° from horizontal. You'll even save labor since the factory-fabricated continuous gasket is easy to install in any weather, with no sealants required. Plus there are no internal frame or joint seals, plugs, or pressure plates, and no snap covers are needed. And Series 5800 is ideal for new construction or retrofit.

All of these benefits—combined with our engineering and manufacturing expertise—made Series 5800 the choice for Kemper Arena. Discover the system that's been a proven performer in hundreds of installations. Ask your EFCO representative about Series 5800, call EFCO direct at 1-800-221-4169, or visit our Web site at www.efcocorp.com.

See us at A/A Booth 1556

EFCO®
WINDOWS
CURTAIN WALLS
ENTRANCES
STOREFRONTS

CIRCLE 35 ON INQUIRY CARD

8 EFCO Corporation

Go To

Click

WWW.architecturalrecord.co

- **PROJECTS**
  - Learn more about projects featured in RECORD
- **ABOUT RECORD**
  - Subscribe
  - Submit a project
  - See the 2000 editorial calendar
  - Shop for reprints, books, and back issues
  - Index
  - E-mail us
- **FEATURES**
  - Business Week/ Architectural Record Awards
  - Green Architect
  - Digital Architect
- **DIALOGUE**
  - Submit news
  - Write letters to the editors
- **CONTINUING EDUCATION**
  - Continuing education articles
  - Self-report form
- **RECRUITMENT**
  - Employment opportunities
- **ADVERTISER & PRODUCT INFO**
  - Link directly to RECORD advertisers
- **PROFESSIONAL DIRECTORIES**
  - Add your company to this listing of architecture firms and consultants

INTRODUCING "FROM THE FIELD"

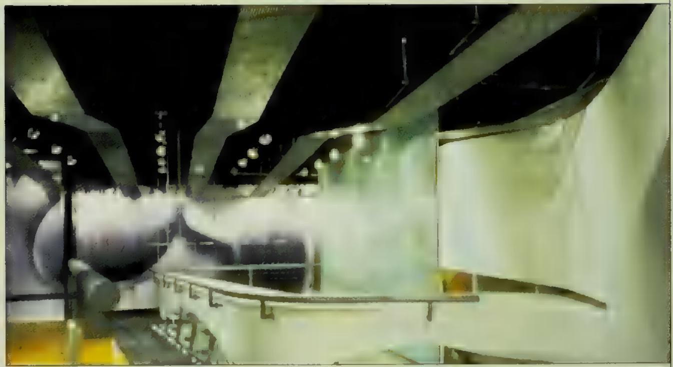
Lively, up-to-the minute personal observations, by the editor in chief and other editors, from their meetings and travels in the field. **Only on Architecturalrecord.com.**

MEET THE PEOPLE AND THE PRODUCTS

CONNECT with the people and the products behind thirteen hot May Projects: **Restaurant Builidng Types Study; Record Lighting** and **Project Portfolio.**

AIA 2000 HONORS & AWARDS

Experience the **38 Award winning projects and Firm Award winner, Gensler.** Read the exclusive interview with **Gold Medalist, Ricardo Legorreta.**



MAKING IT EASY TO BE 'GREEN'

GREEN ARCHITECT takes you to a place where the world's a little greener. The 'Green' Products Guide is organized by division with product descriptions and links to manufacturer web sites. **New 'green' products are added each month. New feature this month: "Ten Shades of Green".**

CONNECT TO ADVERTISERS

Simply CLICK ADVERTISER & PRODUCT INFO to search by advertiser name or product type and link directly to their web sit

OPPORTUNITY KNOCKS

CLICK ON RECRUITMENT to fi career opportunities for architec and related professionals, from firms and universities nationwid

GET CES CREDITS ONLINE

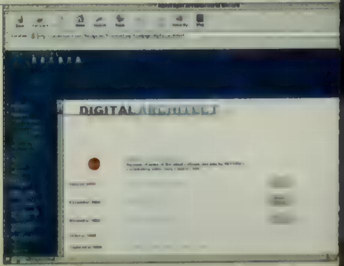
On architecturalrecord.com, you can read RECORD's continuing e self study courses, do test questi and answers, fill out the self-re form and hit 'SEND' to file for CE credits. Find 73 courses, most qualifying for HSW credit.

CLICK SUBSCRIBE to order a new subscription, or renew one; for change of address requests or other customer service questions.

GO TO RECORD'S ONLINE SHO to buy the 230 page volume *Modern American Houses: 40 Years of Record Houses* or *Record Houses* Collection Order back issues and repri Or buy a *Record Houses* CD-R

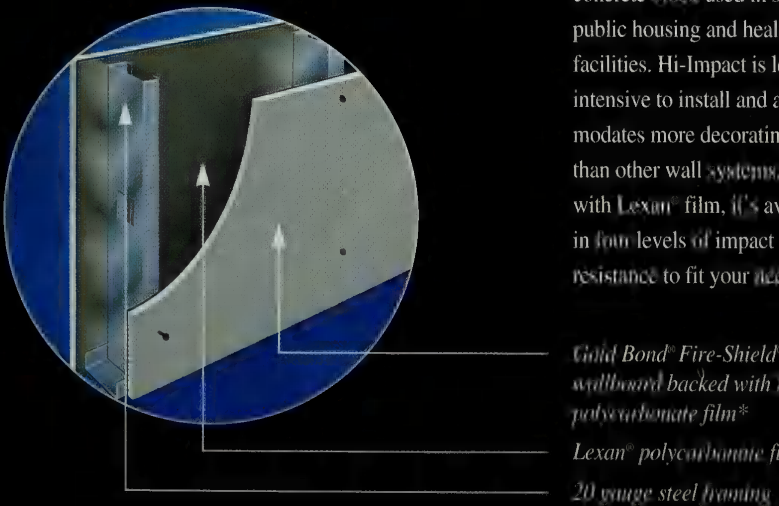
DIGITAL ARCHITECT: CABLING & INFRASTRUCTURE

A QUICK CLICK zooms you to IT Vendor Guides and software reviews with links to manufacturer web sites. **NEW this month: "The Design Implications of Technology" with a valuable cabling and infrastructure vendor guide.** Past *Digital Architect* columns, digital product reviews and related Vendor Guides are just a click away.



Before we introduced our new **Hi-Impact**® wallboard, we ran it by an expert.

When it comes to impact resistant walls, our Hi-Impact wallboard can really take it. It's a versatile alternative to concrete block used in schools, public housing and healthcare facilities. Hi-Impact is less labor intensive to install and accommodates more decorating options than other wall systems. Backed with Lexan® film, it's available in four levels of impact resistance to fit your needs.


*Gold Bond® Fire-Shield® gypsum wallboard backed with Lexan® polycarbonate film**
Lexan® polycarbonate film
20 gauge steel framing

For a reliable,
affordable alternative,
you can't beat Gold Bond®
Hi-Impact
Fire-Shield® Wallboard.

National Gypsum Company
2001 Rexford Road
Charlotte, North Carolina 28211
For technical information,
1-800-NATIONAL
1-800-FAX-NGC1
www.national-gypsum.com

National Gypsum COMPANY
GOLD BOND® BUILDING PRODUCTS

CIRCLE 36 ON INQUIRY CARD

*Lexan is a registered trademark of General Electric Company.

NOBU
TRIPLE-WEAR
PATENTED
PROTECTION
The plank is overlaid with melamine resins containing hard particles for wear resistance.
Triple-wear layers with melamine resins provide additional wear resistance.
Core papers for increased indentation resistance and heat dispersion.
Specially engineered, moisture resistant, wood based core.
Backing, engineered to provide balance and stability for the installed plank.

Next Door Nobu, New York City; Designer: Rockwell Group

“Pergo Publiq Wears Like Iron.”

-Drew Nieporent, “America’s best restaurateur”

And he should know. **NIEPORENT HAS BEEN CALLED “AMERICA’S BEST RESTAURATEUR,”** by *The New York Times Magazine.*

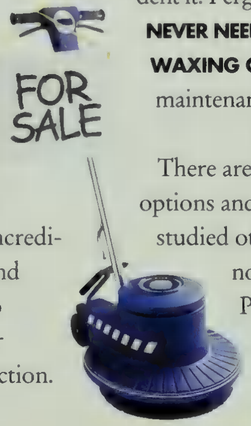
Mobs of people come into his restaurants from NY to London to Tokyo. And when they cram into the incredibly popular *Next Door Nobu* and *Layla,* they’re walking on Pergo Publiq—the only laminate floor with patented triple-wear protection.

NIEPORENT ON PERGO PUBLIQ: “Pergo Publiq solved a major problem for us. We get endless wear and tear on our floors. In fact, we were refinishing our *wood* floors every three months at astronomical costs. **WHEN I SAW PERGO PUBLIQ I IMMEDIATELY LIKED IT, BUT NOW I LOVE IT.** Pergo Publiq is the only laminate floor exclusively engineered for commercial environments. Wine and cigarettes can’t stain it and high heels won’t dent it. Pergo Publiq **NEVER NEEDS SANDING, WAXING OR REFINISHING**— it’s a maintenance dream.

Pergo Publiq is unique. There are lots of pattern and design options and **IT’S SLIP RESISTANT.** We studied other types of flooring, but nothing compared to Pergo Publiq’s looks or performance. **WITH PERGO PUBLIQ’S UNPRECEDENTED WARRANTY,** the floor is one aspect of the restaurants I don’t worry about.”

THE WORLD’S LAMINATE FLOOR LEADER. Pergo invented laminate flooring 20 years ago. “That was enough for me.”

Pergo Publiq is provided and serviced through a select distribution network along with factory trained and endorsed installers. For a colorful, free information kit call us toll free at **1-888-54-PERGO**.



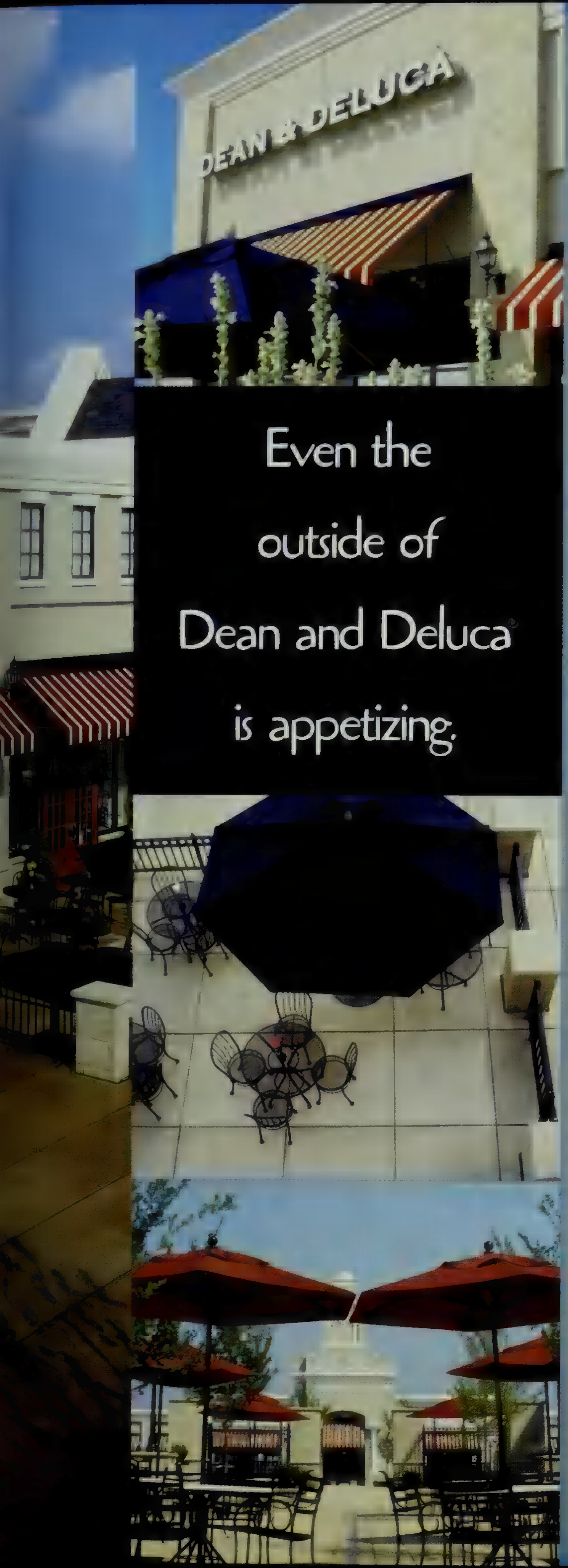
With Pergo Publiq you’ll never have the mess of sanding or waxing! What you will have is an unprecedented warranty, born out of 20 years of laminate flooring experience. Call us for details.

PERGO® PUBLIQ

Commercial Laminate Flooring

CIRCLE 37 ON INQUIRY CARD

® Sunbrella Firesist and are registered trademarks of Glen Raven Mills, Inc. • SEF is a trademark of Solutia. [illegible] is a registered trademark and is used with permission. Awning fabrication by Plastex, Charlotte, NC • www.sunbrella.com



Even the outside of Dean and Deluca® is appetizing.

Before you smell the aroma, before you taste the food, before you walk through the door, you get a sense of the wonderful experience that awaits. The culinary masters at Dean & Deluca® even know how to whet your appetite with architectural design. By blending the beauty of Sunbrella Firesist® modacrylic fabric with the building's European style, they've created a true gourmet presentation.

But presentation is only part of the recipe. Choosing the finest ingredients for building design is vital. That's why Sunbrella Firesist was the obvious choice. Superior flame retardancy is inherent in the fabric, instead of just applied to the surface. In fact, it's woven from SEF+™ self-extinguishing modacrylic fibers. So it meets the strictest fire codes. Sunbrella Firesist fabric also resists fading from sun and rain, because our solution-dyed colors are locked-in. That keeps it looking fresh for years. In fact, we offer a five-year limited warranty. Sunbrella Firesist even makes the inside of Dean & Deluca more appealing. Our breathable awning fabric doesn't trap heat or moisture, which reduces air conditioning costs and keeps patrons comfortable.

When you design your next gourmet masterpiece, choose Sunbrella Firesist. We have more than 25 styles and colors to choose from. So you can find something that suits your personal taste.

Check the Yellow Pages under "Awnings and Canopies" for the awning dealer near you. Or contact Glen Raven Custom Fabrics, LLC, Glen Raven, NC 27217.

sunbrella firesist®
GLEN RAVEN MILLS, INC.

CIRCLE 38 ON INQUIRY CARD

ATLANTIS RESORT: Paradise Island, Bahamas | OWNER/DEVELOPER: Sun International Hotels Ltd.
ARCHITECT: Wimberly Allison Tong & Goo | PRODUCT: Azurlite® Glass

We both know it's important that a building use the best technology available. And that energy efficiency, even in paradise, can make or break a project. Still, a building makes its mark with knockout looks.

You've never forgotten that great architecture is about great design. And neither have we.

PPG Architectural Glass gives you the most advanced glass technology you can imagine. So you can spend your time creating stunning buildings. PPG offers you a vast array of styles and colors unmatched in the industry. Like PPG Azurlite® Glass, with its crisp, beautiful aquamarine appearance

to inspire you – and the energy efficiency that will inspire your client, too.

PPG Azurlite glass gives you an unmatched combination of desirable color, aesthetics, high visible light transmittance, low reflectivity and low shading coefficient.

See just how smart real beauty can be. Call the PPG Solutions Hotline today for your Azurlite Glass sample. 800-377-5267.

PPG | Glass Technology
SINCE 1883

CIRCLE 39 ON INQUIRY CARD

visit our website @ www.ppgglass.com

John A. Cunningham
Larry H. Adams, Jr.
Associated Consulting Internat

"Textures transform a surface into landscape."

Something spectacular is sure to come up when these two partners put their heads together. "The ceiling is too often the forgotten opportunity," says John Cunningham. "With textures, we can create dimension ... we can create excitement." Colleague Larry Adams concurs: "We want to rev up the experiential quality of the space ... to design a fusion of imagination and engineering." What can you sculpt with our SANDRIFT™ Acoustical Ceilings, DONN® Brand Grid and CURVATURA™ 3-D Ceiling Systems?

USG CEILING SYSTEMS

Call us today at 1-800-USG-4YOU or visit our website: www.usg.com

Imagine The Upside.

© 2000 USG Corporation

CIRCLE 40 ON INQUIRY CARD

A new direction in Tinseltown: L.A. rebuilds from within

Correspondent's File

By David Hay

For better or worse, Los Angeles has been viewed as the model of a truly suburban city. New growth has always been targeted for the undeveloped edges of the sprawling metropolis. But recently, thanks to a resistance to longer and longer commutes and an increase in the cost of surrounding land, the eyes of architects and developers have turned toward L.A.'s core. The result: a spate of new construction inside the city boundaries. An even more startling break from tradition is a boom in the artful rehabilitation of existing structures. Both trends highlight L.A.'s sophisticated design consciousness and may soon turn the city into a denser urban environment.

The change is most evident downtown. For years, the urban core, ringed by freeways, was more likely to be driven past than visited. Soon, thanks to major new public buildings, downtown Los Angeles may resemble cities that came of age in the 19th century and may draw a wide swath of residents to its cultural and civic attractions.

Pritzker row

In two years' time, a stroll along Grand Avenue will take pedestrians past buildings designed by three Pritzker Prize winners: Jose Rafael Moneo, Frank Gehry, FAIA, and Arata Isozaki. At the eastern end of Grand, abutting Freeway 101, cranes tower over the 5.6-acre site of Our Lady of the Angels Cathedral. This $163 million project—designed by Moneo with Leo A. Daly as executive architect—will be the major place of worship for a growing archdiocese.

The design involves immense volumes, and the architects are banking on the adobe tones of concrete and the bright California light to make the cathedral warm, even embraceable. The base of each section of exterior wall juts out, and the cathedral's green roof, tilted at many angles, furthers the impression of complexity. Inside, two huge wall screens and over 20 windows lined with alabaster will spill soft light off the buttresses and into the 3,000-seat nave.

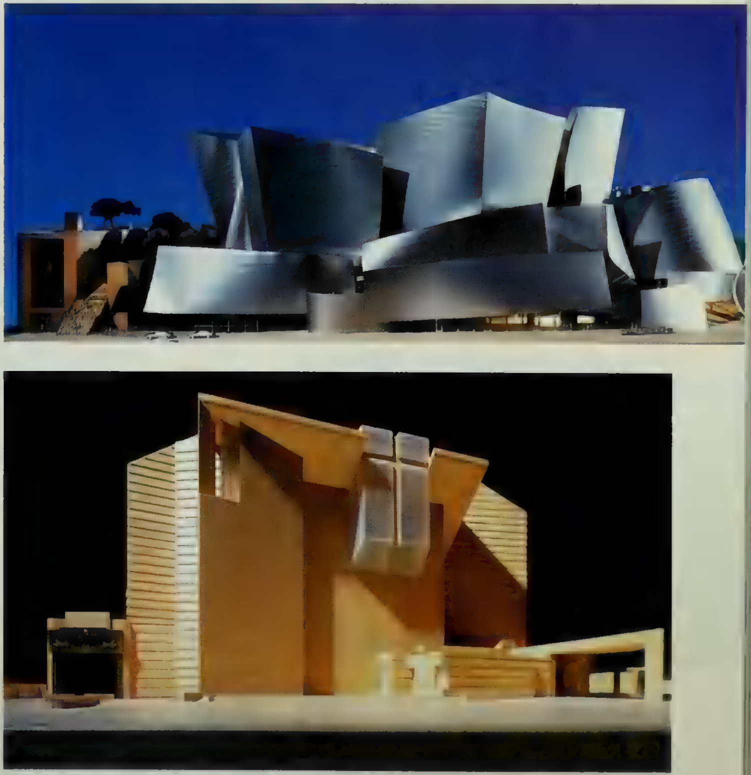
The client, the Archdiocese of Los Angeles, insisted that the cathedral have a 500-year life span—an unpredictable goal because, as project architect Hayden Salter notes, "We're using a material that's only been around for 100 years." The architects added a waterless moat around the cathedral to act as air space: The 58,000-square-foot building, resting on more than 200 rubber cushions, can sway up to 2 ½ feet in any direction during an earthquake.

Disney—at last

Walking west on Grand—past the increasingly outdated Dorothy Chandler Pavilion complex—brings one to the site of Gehry's Walt Disney Concert Hall. When both are completed, visitors will be able to compare Moneo's overscaled volumes with Gehry's use of wavelike, abstract surfaces to disguise the mass of his large-scale structure. Currently, Gehry's design is simply a billboard at the site, but by the middle of the summer, the free-form outlines of his hall will become clear with the construction of its braced-steel frame.

The project recently emerged from a four-year construction halt, caused by budget problems, with a different look. Work on the hall resumed late in 1999, thanks in part to large additional contributions by the Disney family and the Walt Disney Co. to help meet the $274.5 million cost. The most obvious change from Gehry's original design is on the outside: The proposed curved Italian limestone cladding has been jettisoned in favor of stainless steel, which has been given a soft finish.

Craig Webb, an associate principal at Frank O. Gehry and Associates, says the architects "love the way stainless steel picks up light, as well as the movement and color in the environment." The shiny skin may work some additional magic at night: The architects are testing its ability to register projected



With new funding in place, Walt Disney Concert Hall (top model) will soon take shape; Moneo's concept for the 58,000-square-foot Our Lady of the Angels (bottom model).

David Hay is a writer on architecture and the arts who lives in Los Angeles.

images, which could announce the evening's program for the hall's main tenant, the Los Angeles Philharmonic, or even carry advertising.

The architect was also asked to install a small experimental theater and art gallery so that the Disney-funded California Institute for the Arts could have a downtown presence. For the interior of the 2,275-seat concert hall, new research carried out by his acoustical engineers led Gehry to make some refinements in the sail-like wooden ceiling. Combined with the curving wooden walls, the ceiling is intended to give orchestra-goers the sensation of being aboard a ship.

On the other side of Grand is the new home of the Colburn School, a three-story complex designed by Hardy Holzman Pfeiffer Associates. Its modern Romanesque brick facade and concert hall roof, clad with zinc-coated shingles, make it a visually attractive bridge between its neighbor to the south—Isozaki's red sandstone Museum of Contemporary Art—and its glimmering neighbor-to-be across the street.

Walking? In L.A.?

These buildings on Grand, as well as the public library, renovated and extended by Hardy Holzman Pfeiffer, all boast public plazas—and they won't be the only ones competing for pedestrian traffic. An open court now connects Gehry's remodeledwarehouse gallery, the Geffen Contemporary, with Gyo Obata's year-old Japanese American National Museum on First Street. It's this novel idea of walking in L.A.—laughable as the concept may sound—that may draw new residents to the Medici apartments, a 600-apartment complex being built on Seventh Street. It is the first new housing to be built in this area in a decade.

Historic buildings on Spring Street have been converted into mixed-used loft spaces (top); Grand Street features the new home of the Colburn School (bottom).

The downtown also has a growing number of rehabilitation projects. Developer Gilmore Associates' conversion of three historic buildings on Spring Street—originally built between 1900 and 1912—into 235 mixed-used loft spaces has a waiting list of prospective renters. The future tenants are "urban pioneers," says architect Wade Killefer, AIA, whose firm, Killefer Flammang Purtill, is designing the $30 million conversion. "But with huge windows, concrete floors and ceilings, [the apartments] are ideal for young, single hipsters who work at home." On the other side of Freeway 110, Los Angeles Center Studios has built six soundstages at the base of the former Unocal building, designed by Marcel Breuer. The successful studios have already inspired talk of further expansion.

Nadel Architects reclad a 1965 building with a new floor-to-ceiling glass wall.

Hollywood is also enjoying a long overdue revitalization; the area has been in decline for over 40 years. The horrified expressions of the seven million-plus tourists who come to see the stars' footprints at Grauman's Chinese Theater are a testament to how bad things have gotten. But now the gone-to-seed area is developing into a modern entertainment center.

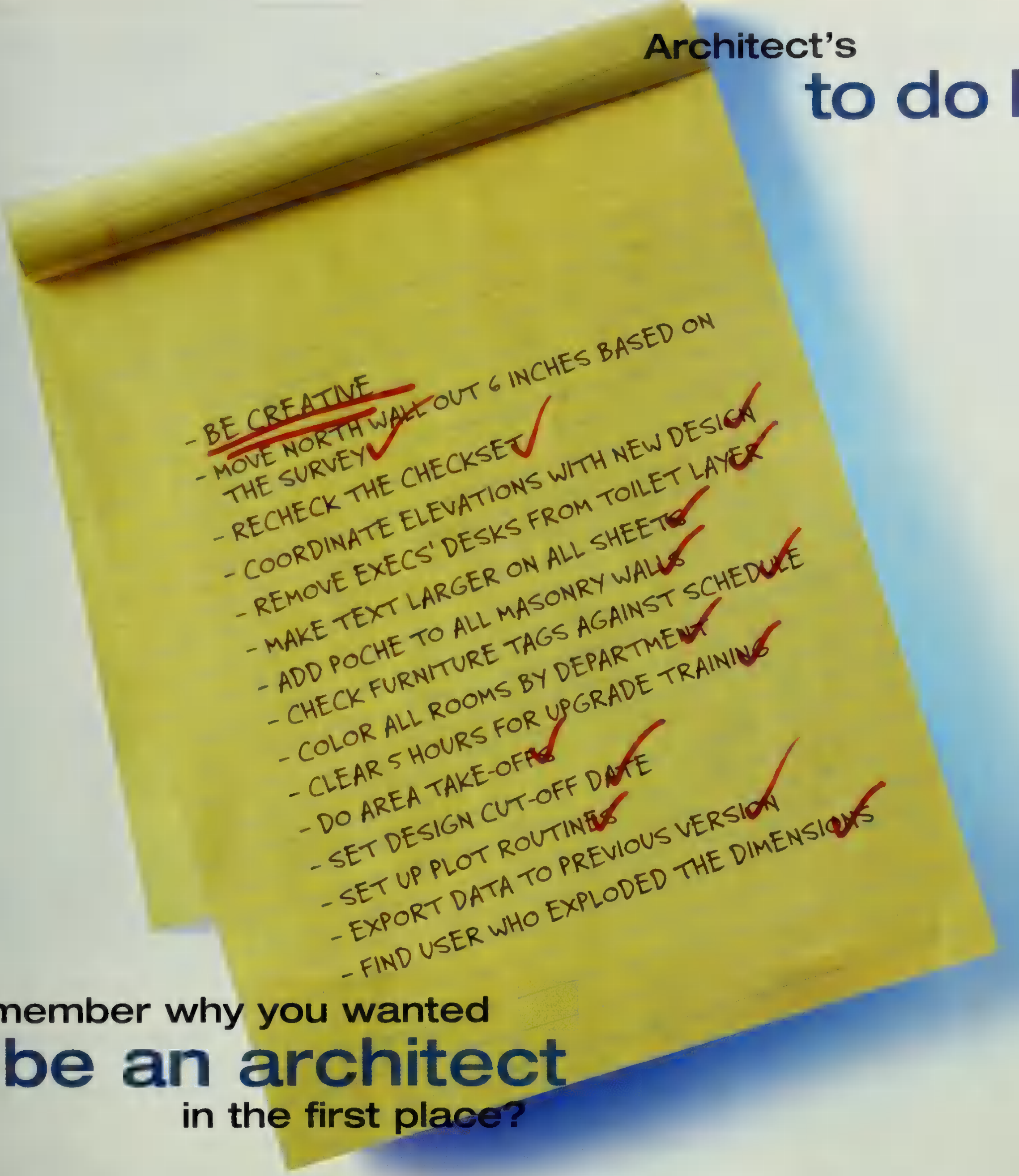
HOLLYWOOD IS ALSO ENJOYING A LONG OVERDUE REVITALIZATION. THE AREA HA BEEN IN DECLINE FOR OVER 40 YEARS.

The largest development is TrizecHahn's $430 million complex of stores, cinemas, pedestrian courts, and a hotel on the corner of Hollywood Boulevard and Highland Avenues. Design architects Ehrenkrantz Eckstut & Kuhn and executive architects Altoon & Porter have created an homage to Cecil B. DeMille's 1916 film *Intolerance*, with a central Babylon Court that features a giant mock-Byzantine archway framing the Hollywood sign in the distance. Elephants sit on multistoried pedestals at the south end of the court.

On the north end will be the new home for the Academy Awards, currently dubbed the Premiere Theater, as naming rights have yet to be purchased. Designed by New York City's Rockwell Group, the 140,000-square-foot structure will have 3,600 seats and will cost a total of nearly $100 million. Its highest-profile user, the Academy of Motion Picture Arts and Sciences, gave architect David Rockwell some unusual instructions. "The space had to be designed for live theater, yet in a way that celebrates movies and with the understanding that its major event would be broadcast on television," says the architect.

The Academy's interests also extended beyond the theater itsel "They wanted the building to facilitate a sequence of events—from arrivals on Hollywood Boulevard, t entry into the theater, to access t the Governor's Ball after the show," says Rockwell. Inside, he opted for extensive use of glass and other translucent materials. "Hollywood's greatness has alway been communicated by the mediums which use light, so it seemed fitting," he notes.

While the inspiration for this project—and many smaller develop ments in the area—is the fabled history of the movies, Michael Rotondi, FAIA, and Clark Stevens, AI of Roto Architects, joining with the John Ash Group, took a markedly different approach for their $20 mi



Architect's
to do list:

- ~~BE CREATIVE~~
- MOVE NORTH WALL OUT 6 INCHES BASED ON THE SURVEY
- RECHECK THE CHECKSET
- COORDINATE ELEVATIONS WITH NEW DESIGN
- REMOVE EXECS' DESKS FROM TOILET LAYER
- MAKE TEXT LARGER ON ALL SHEETS
- ADD POCHE TO ALL MASONRY WALLS
- CHECK FURNITURE TAGS AGAINST SCHEDULE
- COLOR ALL ROOMS BY DEPARTMENT
- CLEAR 5 HOURS FOR UPGRADE TRAINING
- DO AREA TAKE-OFFS
- SET DESIGN CUT-OFF DATE
- SET UP PLOT ROUTINES
- EXPORT DATA TO PREVIOUS VERSION
- FIND USER WHO EXPLODED THE DIMENSIONS

Remember why you wanted
o be an architect
in the first place?

hitecture is all about composition. . . order. . . harmony.

il now, however, architectural CAD software has been complicated, unwieldy, inconsistent with the real work of architecture.

it changes all that.

evit makes it easy to design, because its parametric building modeler ncourages design alternatives.

evit makes it easy to innovate, because it instantly revises all plans and views fected by any change.

evit makes it enjoyable to use CAD, because you work directly with real arametric building components, not lines and arcs.

- Revit makes it easy to build, because it automatically maintains schedules with drawings. Revit always guarantees the model's consistency.
- Revit works with your current software, because it can open, read, and write industry-standard files.

In short, Revit changes everything. With Revit, your architectural software adapts to the way you work, not the other way around.

For more information, visit **www.revit.com**. You'll also discover a new way to buy Revit, via subscription. It's revolutionary. Just like everything else about Revit.

1 877 47 REVIT

revit
revolutionizing building technology

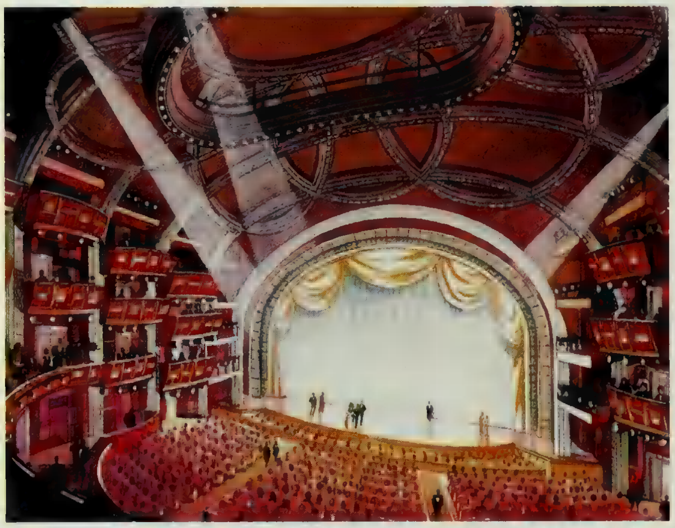
CIRCLE 41 ON INQUIRY CARD

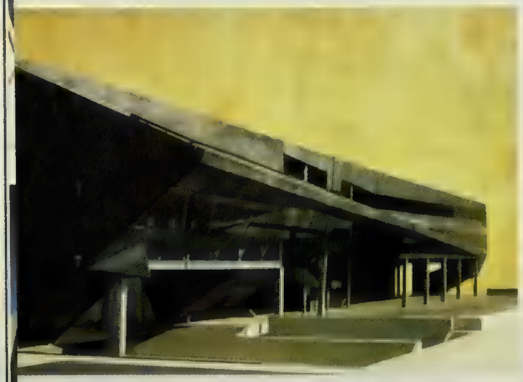
Copyright© 2000 Revit Technology Corporation
Revit is a trademark of Revit Technology Corporation

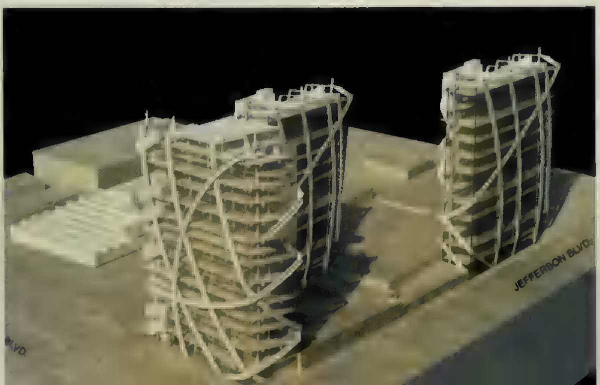
lion Hollywood-Orange building. "We looked to the future," says Rotondi. Their design, flanking the north side of Grauman's (the TrizecHahn complex is to the south), is a glass-enclosed retail space for the tourists who are dropped off by buses behind the Chinese theater.

"Right now people stay, on average, 20 minutes on Hollywood Boulevard," says Ash. "Our job is to keep them here for two hours." Their "Times Square in a glass box" is a maze of walkways: Some head directly to the street, others angle across the front of the building and offer views of Hollywood Boulevard, while still more reach an upper deck, where an outdoor plaza offers dining facilities. Glass panels facing the boulevard will double as video billboards. At night, the architects predict that, lit from inside, the building will become a cubist lantern bursting with orange light.

"The boulevard was once very much a living street for Los Angelenos as well as tourists," says Roxanna Tynan, the economic development adviser to city councilwoman Jackie Goldberg. "That's what we hope will happen again."







A vision of the new home for the Academy Awards (top); the "Stealth Theater and Office Complex" (middle) and Jeff/Jeff Towers (bottom), designed by Eric Owen Moss.

New media, new spaces

The search for dazzling office space to satisfy the new media businesses that Los Angeles is now attracting in droves has led to some highly innovative solutions. On the once neglected border of Culver City and Los Angeles, architect Eric Owen Moss, FAIA, working for Samitaur Constructs, has turned a former light-industrial area into a striking new community and business center.

One component of this micro-urban development is the $40 million Wedgewood Holly Complex, where Moss revamped several derelict 1930s warehouses and designed two new buildings. Fronting these light and airy new offices, all built around a large courtyard, is a structure that Moss calls the "Stealth Theater and Office Complex." With its black exterior and sharp, cross-angled front, it bears considerable likeness to the fighter aircraft of the same name. The 50,000-square-foot building will be home to Ogilvy & Mather.

For the eastern end of the site, Moss designed three 14-story glass towers, rising out of an existing sawtooth warehouse and supported by a steel column grid. To carry the earthquake and wind load on what Moss has named the Jeff/Jeff Towers (so-called because of their location on a curve in Jefferson Boulevard), the architect proposes to tie up the buildings "like ribbons on a package" with five-foot-wide steel beams curving around their exteriors. Inside, each floor offers 22-foot ceilings, catering to all the possible media-production needs of its expected tenants.

Another solution to the dearth of upscale office space lies in the rehabilitation of office towers built in the 1950s and 1960s. A striking example of such an upgrade has been completed by Nadel Architects in the Westwood village area. The firm took a 22-story building—constructed in 1965 and noted for a gaudy red-and-orange sign advertising a rooftop restaurant called Monty's—and reclad it with a new floor-to-ceiling glass wall. Project designer Michael Walden played around with different colors—copper, silvery blue-green, and clear glass—to make the facade appear, especially in the setting sun, like a glowing, abstract painting.

Back to school

Perhaps the greatest challenge for architects in Los Angeles is offered by the public sector. In the next five years, education authorities plan to build up to 150 new schools. The shortage of available land presents a particular challenge; this makes the elementary school designed by Kevin Daly, AIA, and Chris Genick, of the firm Daly Genick, an interesting model of what could be done.

The design turns a former two story mini-mall near MacArthur Park into the 12-classroom Camino Nuevo school. The architects built a freestanding extension to widen the upstairs passageways, converted the sloping parking lot into an assembly/play area, and shaded much of the building with curved wooden lattices. "We didn't want any connotation that kids in the poorest part of L.A. were going to a [repossessed] mini-mall," says Daly

The ability to turn what Daly refers to as "the crappiest of buildings" into something both eye-catching and long-lasting gives hope that a new, denser Los Angeles could also be a more attractive city. Considering the extraordinary downtown contributions of the Pritzker Prize winners, architects and developers have been alerted that the disposable designs so prevalent in the last 50 years are not what the design-savvy citizens of L.A. desire. ■

SUPERIOR LIGHT DIFFUSION IN A MAINTENANCE-FREE GLASS PACKAGE.

Clayton Avenue School
Vestal, NY

Beorsch, Compeau,
Knudson Architects
Binghamton, NY

OKALUX® INSULATING GLASS PANELS.

nal insulation.

OKASOLAR® insulating glass panels contain a custom-designed fixed-louver system and are engineered for the specific orientation of each glazing.

OKALUX® Light Diffusing and Insulating Glass panels provide high-quality, non-yellowing, natural illumination. Light transmission can be adjusted to the requirements of most projects. OKALUX® Light Diffusing and Insulating Glass panels have withstood the test of time and have been used in applications worldwide for schools and universities; museums and libraries; municipal, commercial and industrial buildings such as offices and sports complexes; shopping malls; airports and atriums. Also ask us about OKASOLAR® sun control panels with fixed integrated louvers for optimum light and heat control. For more information contact SCHOTT Corporation, 3 Odell Plaza, Yonkers, NY 10701, or call (914) 378-3839. And also visit our website at www.schottglass.com/okalux.htm.

OKALUX® and OKASOLAR® are registered trademarks of OKALUX Kapillarglas GmbH, Marktheidenfeld-Altfeld, Germany.

SCHOTT
glass made of ideas

CIRCLE 42 ON INQUIRY CARD

One more way to
build on our knowledge

Great Gypsum™!

Anything else
is just ordinary gypsum board.

Gypsum board used to be perceived as just gypsum board. One brand being considered no more consistent in quality than the next. By investing in high-end technology, Celotex has changed that perception with a higher, more consistent quality, day-in, day-out. But, the quality doesn't begin and end on the job-site.

Celotex's reputation for **Quality Service** and maintaining excellent relationships with our customers is equally important. To further enhance service to our customers, we will increase our production capability by **60%** when we open our new State-of-the-Art gypsum plant in Carrollton, KY in June 2000...geographically **Improving Delivery** in the surrounding states for a long time to come.

For more information, call 1-800-CELOTEX, or visit us at www.celotex.com. "We're the company you can talk to."

Celotex

Build On Our Knowledge™

CEILING TILES / SHINGLES / GYPSUM BOARD / RIGID FOAM INSULATION

CIRCLE 43 ON INQUIRY CARD

Architects can influence policy and contribute to the public good

Practice Matters

By Andy Pressman, AIA

Many architects share aspirations to improve communities and the environment and to address basic social problems through design. This drive toward civic activism is not only laudable but essential if practitioners are to enhance the public's perception of architecture and make the field more relevant to broad segments of society.

Activist strategies

There is growing evidence that architects are skillfully forging alliances in the realms of politics, policy, and education. And there appears to be an increasing awareness of what architects can offer in the civic arena. Local planning and zoning boards and other profession-related groups, such as the National Trust for Historic Preservation, Main Street, Habitat for Humanity, the Congress for New Urbanism, and AIA chapters, for example, need volunteers or board members. In these roles, architects can be innovative and persuasive in proposing and implementing bold initiatives, and they can testify at hearings on pressing community issues. In a general sense, the skills architects practice virtually every day make them especially effective in public service: a capacity for synthetic vision, problem solving, and group facilitation.

ARCHITECTS' SKILLS MAKE THEM ESPECIALLY EFFECTIVE IN PUBLIC SERVICE.

Nonprofit community-development corporations, such as the United South Broadway Corporation in Albuquerque, often require advice from architect-volunteers or board members. Architects bring value to such groups because they can specifically guide an A/E selection process, represent the organization's interests in neighborhood planning and economic development, help assess prospective sites, and advise on proposed project feasibility.

Identify appropriate organizations

It is critical to approach prominent members of the community to learn where help is needed most. Attending city council meetings is a great way to see who is active in town and to gain insight into the disposition of council members and the mayor. Ask them about becoming an adviser or board member. Moreover, there might be an opportunity to sit on city policy committees. Consider writing an op-ed piece for the newspaper, communicating directly with government representatives, or even running for office.

Community design centers, located throughout the country, typically provide planning, programming, building survey and evaluation, cost estimates, and design services to nonprofit community groups. They are supported by a network of volunteer designers from professional societies and universities. (The Association for Community Design publishes a directory of these centers.) Regional or local foundations also present opportunities for applying specialized architectural expertise. Cornerstones Foundation in New Mexico, for example, is well known nationally for its excellent community-based church-restoration program.

Pro bono work can provide enormous benefit to society. "Clients" who might not otherwise afford architectural services—and who really need them for code compliance or other facility improvements—include religious institutions, child-care centers, and homeless shelters. This type of work can take many forms but should be executed with the same reasonable standard of care as any other architectural project. Outline services in writing so all parties are aware of specific objectives.

There are worthy local projects to which architects can offer their special skills and energy. DiGeronimo, Pa., architects of Paramus, N.J., allots 7 to 14 percent of gross receipts to charities as pro bono service. For example, the firm renovated a halfway house for babies afflicted with AIDS. The "house" was upgraded (walls, heating system) to comply with code. The architects developed and filed documents with the building department and stayed with the project through construction.

While the motivation to pursue publicly minded work is fundamentally noble, there are secondary pragmatic benefits. Greater exposure and contacts are natural consequences and may produce leads for future work involving the community and important social agendas.

Case studies

Bruce Fowle, FAIA, of Fox & Fowle Architects in New York City, refutes the Rodney Dangerfield dictum that architects "don't get no respect." Fowle implores architects to "speak about community issues." Contrary to what architects believe, Fowle says the public respects them and wants to hear what they have to say.

Speak out he does, especially regarding zoning initiatives. Fowle is currently involved on an AIA task force that is assessing a proposal to simplify New York City "bulk" zoning regulations. His primary concern is the impact of these restrictions on the quality of architecture in the city. Fowle says, "There's nothing more important than ensuring that zoning regulations are not unduly restrictive and that they allow the culture of the city to survive. Due to zoning constraints on tall, thin towers, you can't even design an Empire State Building anymore!" He believes that if architects are not in the trenches, then developers and bureaucrats will make myopic decisions without considering long-term implications or the public interest. If Fowle and his committee had not been so vocal, an architectural perspective would not be a respected part of the dialogue. Fowle orchestrates a successful system of checks and balances in one of the largest and most politically complex cities in the world.

PUBLIC SERVICE HAS THE SIDE EFFECT OF ENHANCING RECOGNITION OF THE FULL SCOPE OF THE PROFESSION.

Architect Michael Pyatok, FAIA, based in Oakland, Calif., is another brand of activist. He has called on architects to take leadership positions on affordable housing, urban planning policy, environmental sustainability, historic preservation, and design guidelines. Pyatok became active in his local AIA chapter; he held public forums and sponsored talks about the housing crisis. That led to membership in the National AIA Affordable Housing Task Force, which promoted housing-related projects at various chapters. He observes, “Talented designers have power they haven’t begun to tap. They have an automatic platform since they are credible. They can use that platform to advocate important causes at the same time they’re making awesome buildings.”

Supplementing Fowle’s and Pyatok’s large-scale approach, Albuquerque architect Mark Childs, AIA, believes architects can use their skills to raise children’s awareness of the built environment. He volunteers to work with elementary school teachers to develop and present urban design workshops in the classroom. One urban design game he conducted with second graders was an original idea he devised for the incremental development of a town. They were enthralled: “Why’d you put your gas station next to my house?” They stayed through recess to play design.

Yet another example of activist effort is illustrated by New York City architect Richard Dattner, FAIA. He is a master at engaging the political process. He “demarginalizes” his practice by selecting commissions that align with his socially responsible principles. For example, Riverbank State Park in West Harlem was built on the roof of a sewage-treatment plant in a neighborhood opposed to the plant’s construction.

Eight years of political maneuvering included extensive design sessions with neighborhood residents and elected officials. The intent was to demonstrate that high-quality design and programming of recreational facilities would provide a genuine community amenity and neutralize the plant’s location, thereby avoiding the NIMBY issue. A constant threat of loss of funding from federal, state, and city agencies prompted the state to require a value engineering analysis.

Dattner responded with creative design solutions that preserved the project’s original spirit while reducing costs. His overarching responsibility and determination to contribute to the public good resulted in one of the most frequently used parks in the state.

Architects design projects of all types, but they can also strive to become model citizen-professionals. By wisely embracing social responsibility and political process they can positively influence the public domain in ways that extend their talent and good will beyond buildings. This, of course, has the side effect of enhancing public recognition of the full scope of the profession. In light of societal problems and challenges, it seems especially timely for more of us to consider emulating these examples and become agents of progress and indispensable resources in our communities. ■

ALUMA•VAULT

Go ahead, throw us a curve. Because ceilings weren’t meant to be flat.

Curved, freeform, or vaulted......you create the design, and Aluma-Vault defines the ceiling. It’s a versatile, curved metal ceiling system with so many panel shapes, sizes and colors to choose from, it’s easy to take your design from concept to reality.

What’s your BIG IDEA?

Top it off creatively with Aluma-Vault. Like all of Gordon’s other quality specialty ceiling products, Aluma-Vault is built to meet your highest expectations.

Contact us for our new product brochure or lookup our website: www.gordongrid.com

GORDON
INTERIOR SPECIALTIES DIVISION
P.O. Box 4347 SHREVEPORT, LA 71134
CALL 1-800-[illegible]
FAX TOLL FREE 800-877-8746

CIRCLE 44 ON INQUIRY CARD

APA
ARCHITECTURAL PRECAST ASSOCIATION

AWARD OF EXCELLENCE

The 2000 APA Awards For Design & Manufacturing Excellence

is a national award program sponsored by the Architectural Precast Association. Each year a jury of your peers selects the best designs utilizing architectural precast concrete. Finished structures must display a highly animated use of precast which gives life and vitality to the building surface. Other considerations include a good control of medium, consistent color and textural control, and a design that exploits the potential of an architectural precast system.

1 ***Winner:*** S.C. Johnson & Son
Professional Headquarters
Sturtevant, Wisconsin
Design: Zimmerman Design Group with
Hellmuth, Obata & Kassabaum, Inc.
Manufacturing:
International Concrete Products
Germantown, Wisconsin

2 ***Winner:*** Citicorp Tampa Campus
Tampa, Florida
Design: HKS Architects, Inc
Manufacturing:
Gate Precast Company
Monroeville, Alabama

3 ***Winner:*** IJL Financial Center
Charlotte, North Carolina
Design: Smallwood, Reynolds, Stewart
& Stewart
Manufacturing:
Metromont Prestress Company
Charlotte, North Carolina

4 ***Commendation:***
Bellagio Hotel & Casino
Las Vegas, Nevada
Design: Marnell Carrao Associates
Manufacturing:
Architectural Cast Stone
Santa Ana, California

2000 Jury Members:

Chairman – William Bain, Jr., FAIA, RIBA,
NBBJ Architects • Seattle, Washington

Alan J. Beard, FAIA, CSI,
GBD Architects • Portland, Oregon

Robert W. Widmeyer, AIA
LMN Architects • Seattle, Washington

ARCHITECTURAL PRECAST ASSOCIATION
PO Box 08669 • Ft. Myers, FL 33908-0669 • Tel: (941) 454-6989 • Fax: (941) 454-6787 • Email: info@archprecast.org • Website: www.archprecast.org

Design choices are infinite with Architectural Precast Concrete. When you demand quality and beauty, demand Architectural Precast Concrete.

CIRCLE 45 ON INQUIRY CARD

Building On Generations Of Experien

We're committed to the future! At EAGLE Window & Door we continue to offer a rich heritage of superior craftsmanship. Many of our employees are second- or third- generation window crafters, and remain the strength and heart of our business. That's why we're reinvesting in our community by building a new, state-of-the-art manufacturing facility. From the oldest, continually-operated window and door facility in the country (circa 1860's) to the newest, EAGLE is dedicated to carrying on a long-standing tradition. Isn't it time you experience a legacy in the making!

For information about EAGLE, call (800)453-3633 or visit our website at www.eaglewindow.com.

EAGLE WINDOWS · DOORS

© 2000 EAGLE Window & Door, Inc. - Dubuque, Iowa
An American Architectural Products Corp. Company

CIRCLE 46 ON INQUIRY CARD

Enough snickering. Suburbia is more complicated and varied than we think.

Critique

By Robert Wilson

As the editor of *Preservation* magazine, a publication that sees itself as being about place, I've realized recently that we have been overlooking a pretty significant subject: suburbia, the place where half of Americans live. We have run stories about sprawl and the New Urbanism and made the usual condescending references to cookie-cutter houses and placeless places. But we have failed to look at the suburbs with the same curiosity and courtesy that we've shown to Dubrovnik, say, or Sioux Falls or Paducah.

"Why is that?" I now wonder. Snobbery is part of the answer. Nothing can be less hip than suburbia. At a time when our cities are showing new signs of life and our open space is still being chewed up at an exponential rate, whose imagination is going to catch fire over the problems of the suburbs?

Part of the answer is also linguistic. The s-word itself has become so ubiquitous and so baggage-laden that it barely means anything anymore. There is a paradox lurking here. The word *suburbia* has been used to describe the increasingly varied places where more and more of us live—gritty inner suburbs that share many of the problems of their urban neighbors, immigrant neighborhoods at every economic level, and new greenfield developments sporting one McMansion bigger than the next. Yet our definition of the word remains fixed in a former time, decades ago, when women worked at home and men commuted to work. The biggest problem with suburbia is that we are all so certain that we know what it means. We watched *Father Knows Best* and read our Updike, and even a recent film like the Oscar-laden *American Beauty* confirms what we think we know: suburbia is a dull, sterile, unhappy place.

A persistent bias

As this suggests, the problem is also cultural. For the most part, American culture and opinion are still created, even in the Internet age, in cities at either edge of the continent. City dwellers, whether native born or the still more unforgiving recent converts, think of the suburbs as a mediocre place for mediocre people, a place where they will never venture or from which they have happily escaped. Even those who work in cities and live in suburbs (many of which now offer more urban amenities than nine-to-five cities) share this anti-suburban frame of mind. If intellectuals do deign to look at the suburbs—whether cleverly in a film like *American Beauty* or clumsily, as in another recent film, the ugly paranoid fantasy *Arlington Road*—they assume that so much banality must be hiding something deeply evil.

Beyond the movies

I'm really not here to defend suburbia, only to suggest that it is a more complicated, more various, and more quickly evolving place than we think. Two writers I admire, Witold Rybczynski and Joel Garreau, have helped me reach this state of cautious curiosity. The former, in his recent biography of Frederick Law Olmsted and elsewhere, has reminded me that the suburb was a noble idea that was often, in the first decades of its existence, nobly executed. Many of these places, such as Chevy Chase near Washington, D.C., continue to function admirably well. Garreau's insight is that Venice didn't become Venice the instant it was built, but developed over a period of centuries. If we remember that the suburbs, especially the postwar suburbs over which we do most of our hand-wringing, are still relatively new places, the question becomes not "Why are they so bad?" but, "What is the next step to making them better?"

Who's to blame?

As a journalist, I am naturally filled with righteous indignation about the subject. My instincts are first to find someone to blame and second to flatter myself that I know the solution. So, here goes: One reason that the suburbs are not better is that the best minds in architecture abandoned them. Once, not just Olmsted but Frank Lloyd Wright, Le Corbusier, Clarence Stein, and others considered, in an urgent and serious way, the questions of where and how people might live if they didn't live in cities or on farms. Am I wrong in

The pattern of progress? A new development takes shape outside Memphis.

Robert Wilson is editor of Preservation *magazine.*

believing that between the Garden City movement of the 1910s and 1920s and the New Towns of the 1960s there was a wasteland of ideas beyond the city limits—just as the suburbs began to lay waste to vast portions of the American landscape? And that there was precious little between the New Towns and the New Urbanists? Isn't this why the design and execution of suburbs have been so disappointing, because the field was abandoned to the merely avaricious?

A REASON THE SUBURBS AREN'T BETTER: THE BEST ARCHITECTS ABANDONED THEM.

For anyone who is irritated by how much attention the New Urbanists get, here is the simple answer to their popularity with the media: However retrograde their ideas, however short their accomplishments to date might fall, at least they have an idea and at least they have acted upon it.

The New Urbanists spent a certain amount of time reacting to Vincent Scully's suggestion that they should really be thought of as the New Suburbanists, but in their new book, *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream*, Andrés Duany, Elizabeth Plater-Zyberk, and Jeff Speck frankly admit and defend their suburban focus. Whether they helped create the slow-growth, sustainable-growth, antisprawl movements that have captured the imagination of so many voters in recent elections at all levels of government, or whether they merely capitalized on these movements, their book seems timely. In a recent front-page article, the *New York Times* reported that academics have suddenly taken an urgent interest in suburbia. Other major newspapers across the country have latched on to the subject, perhaps as an outgrowth of the widening interest in sprawl.

Recent stories in *Preservation*, beginning with a cover story on the new suburban immigrants, have not thrilled hardcore preservationists, for whom suburbia has always been a particular *bête noire*. For me, this resistance is only a speed bump on the road to the movement's democratization.

Do I foresee the wholesale preservation of postwar suburbs? Probably not. Rapid evolution would be far more desirable. Still, alarms were sounded recently in Houston, where a whole neighborhood of brick ranch houses was under siege. The truth is that most people love their suburban homes and neighborhoods and will fight to save them. And if preservationists have learned anything in the last century or so, it is that the notion of what is worth preserving changes. Just recall how Victorian buildings were despised as recently as a few decades ago. Perhaps the split-level will be the retro rage in 205

Design creeps in

As money and newly sophisticated consumers pour into the suburbs, good design and architecture are beginning to follow. In my neck of suburbia, northern Virginia, where even a determined electorate has had trouble slowing sprawl, there ar nonetheless hopeful signs that goo ideas are arriving—from town-cente schemes for shopping and living to interesting and appealing buildings for churches, college campuses, an office complexes.

Most welcome of all, perhap is the improved architecture for public buildings, including school which were the most bereft place we allowed to be built in the bad old days just ending. May all of y who read these words enthusiast cally enter the fray, enriching yourselves even as you enrich a vast part of our landscape that urgently needs you. ■

It's a simple rule. And it applies to your software tools. Using a pirated copy of a program like AutoCAD® is wrong. It hurts the people who work hard to make your software better, and it hurts you. Because without a valid license, you can't get the service and support you deserve. Even if it's not your fault,

1-800-NO-COPIES

you can do something about it. Don't fall for it. Report pirated Autodesk software. All calls 100% confidential. Call 1-800-NO-COPIES.

Autodesk
DESIGN YOUR WORLD

[illegible] Autodesk, Inc. Design Your World is a trademark [illegible] AutoCAD and the Autodesk logo are registered trademarks of Autodesk, Inc. in the U.S. and other countries.

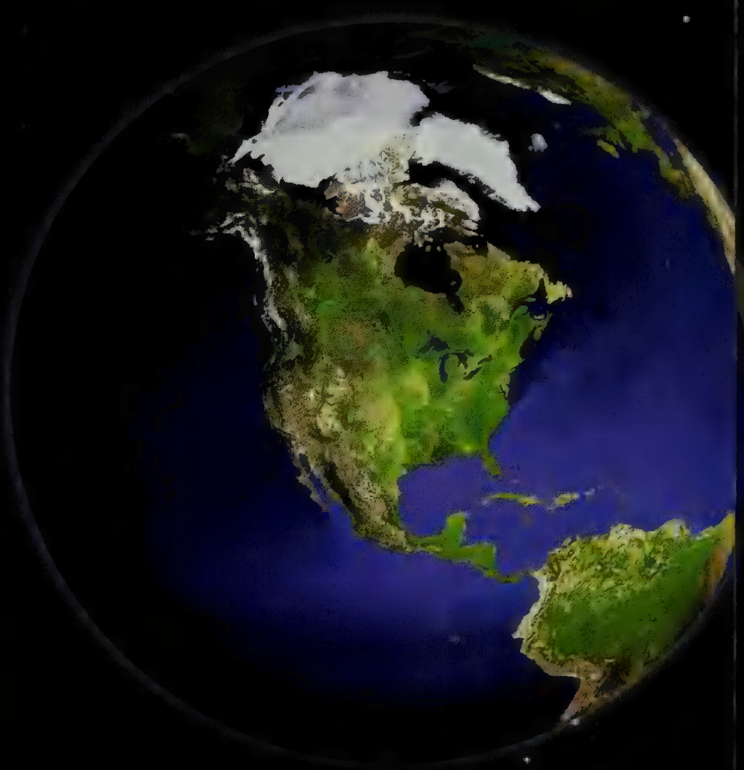
www.autodesk.com/piracy

AVONITE® *Innovations in solid surfacing.*

1-800-428-6648 / www.avonite.com

CIRCLE 47 ON INQUIRY CARD

THIS WAS BUILT IN JUST SIX DAYS.



Cephren®
can't promise
that kind of speed.
But we do promise
to change the way
you build the world.

You need to coordinate teams of architects, engineers, contractors and suppliers. And you need to procure goods and services from four corners of the world. Which is why you need a more efficient way to communicate and transact in real-time. The solution? Cephren's collaboration and e-commerce framework.

Just access our 100% Web-based, secure workspace from anywhere, using any browser, at anytime. And discover how easy it is to manage costs, mitigate risk and accelerate time-to-market.

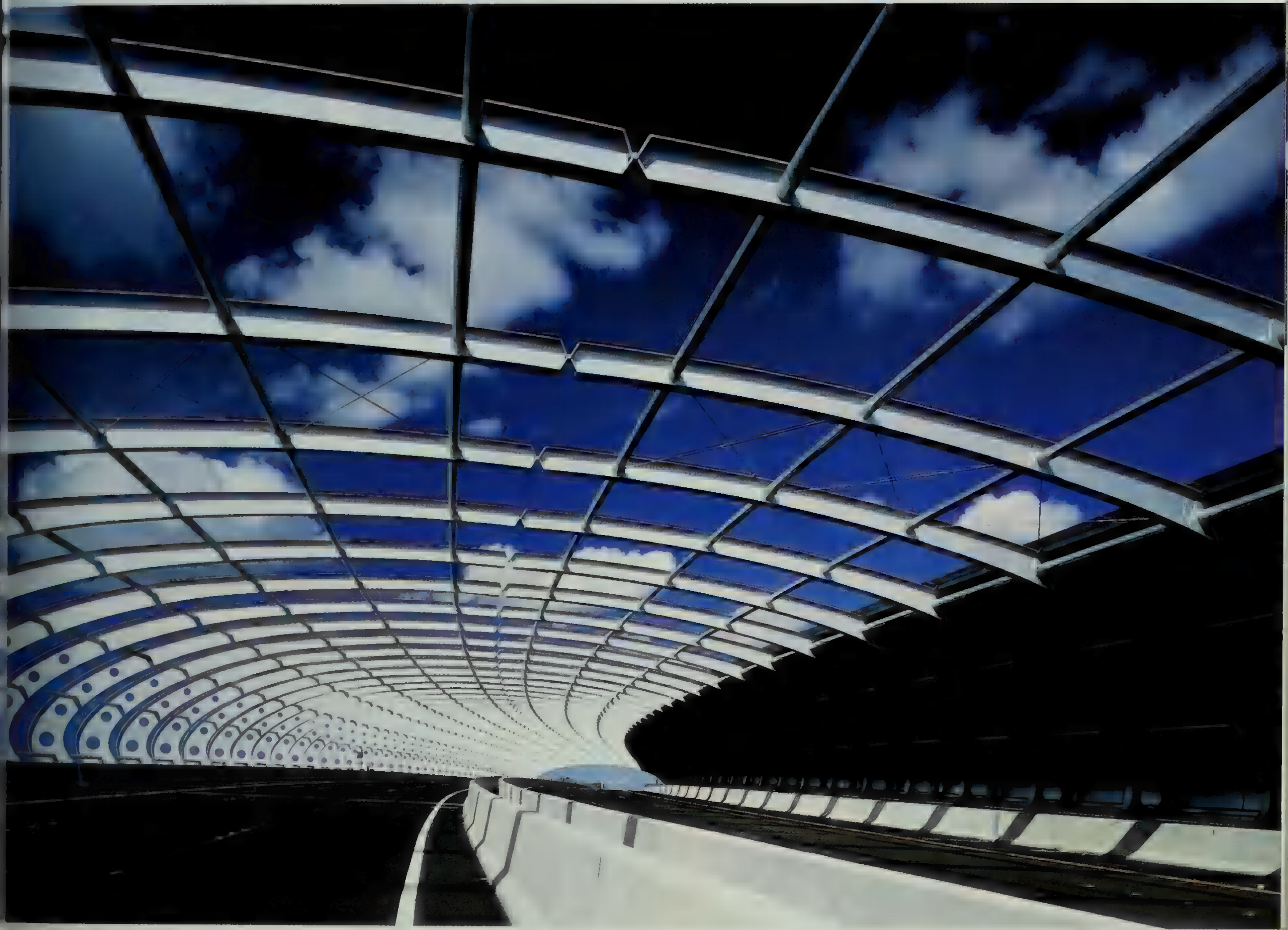
Cephren has over 800 firms using its online network representing over $40 billion in construction value around the globe. Clients include The Bechtel Group, BSW International, Gensler, Global Design Alliance, HOK, WAT&G and Webcor Builders; charter E-Commerce customers include E-J Electric Installation Company, Fischbach & Moore Electric Inc., J.A. Penny, Liberty-WESCO, Mass Electric Construction Company, Midwest Mechanical of New Jersey, Turtle & Hughes and Watsco.

Visit www.cephren.com/ad or call 650-845-2000
to learn more about our products and services.

© Copyright 2000 Cephren, Inc. All rights reserved. Cephren and the Cephren logo are registered trademarks, and Change The Way You Build The World is a trademark of Cephren, Inc. in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders.

Cephren®
change the way you build the worl

CIRCLE 48 ON INQUIRY CARD



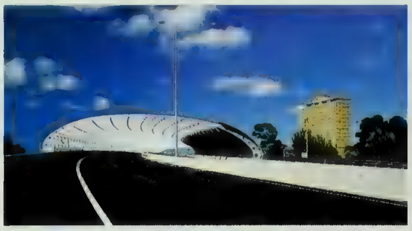
By Ingrid Whitehead

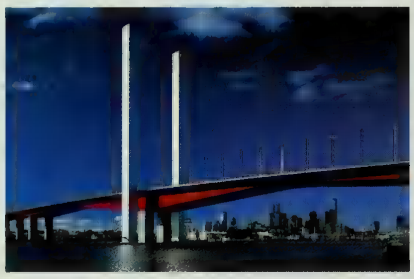
Speed, sound tubes, sticks, and the city

Like a massive steel spider perched on the road, the brazen gateway sculpture that beckons motorists into Melbourne is both scary and splendid to behold. Meant to be experienced at speeds of 100mph, Denton Corker Marshall's City Link Gateway is a tribute to the ancient use of a true city boundary.

Connecting the Tullamarine Freeway—which leads to the Melbourne International Airport—with the Westgate Bridge, the gateway consists of an elevated "sound tube" through which cars must pass to get to the next group of dramatic elements: a precariously angled yellow steel beam, approximately 16-by-16 feet in width and 98 feet high. Beyond the massive beam, 39 aligned red "sticks," each approximately 98-feet tall and 3-by-3 feet wide are located in a row, which from afar resembles a solid wall. The yellow beam, metaphor for a gateway arch, is cantilevered 196 feet over the roadway.

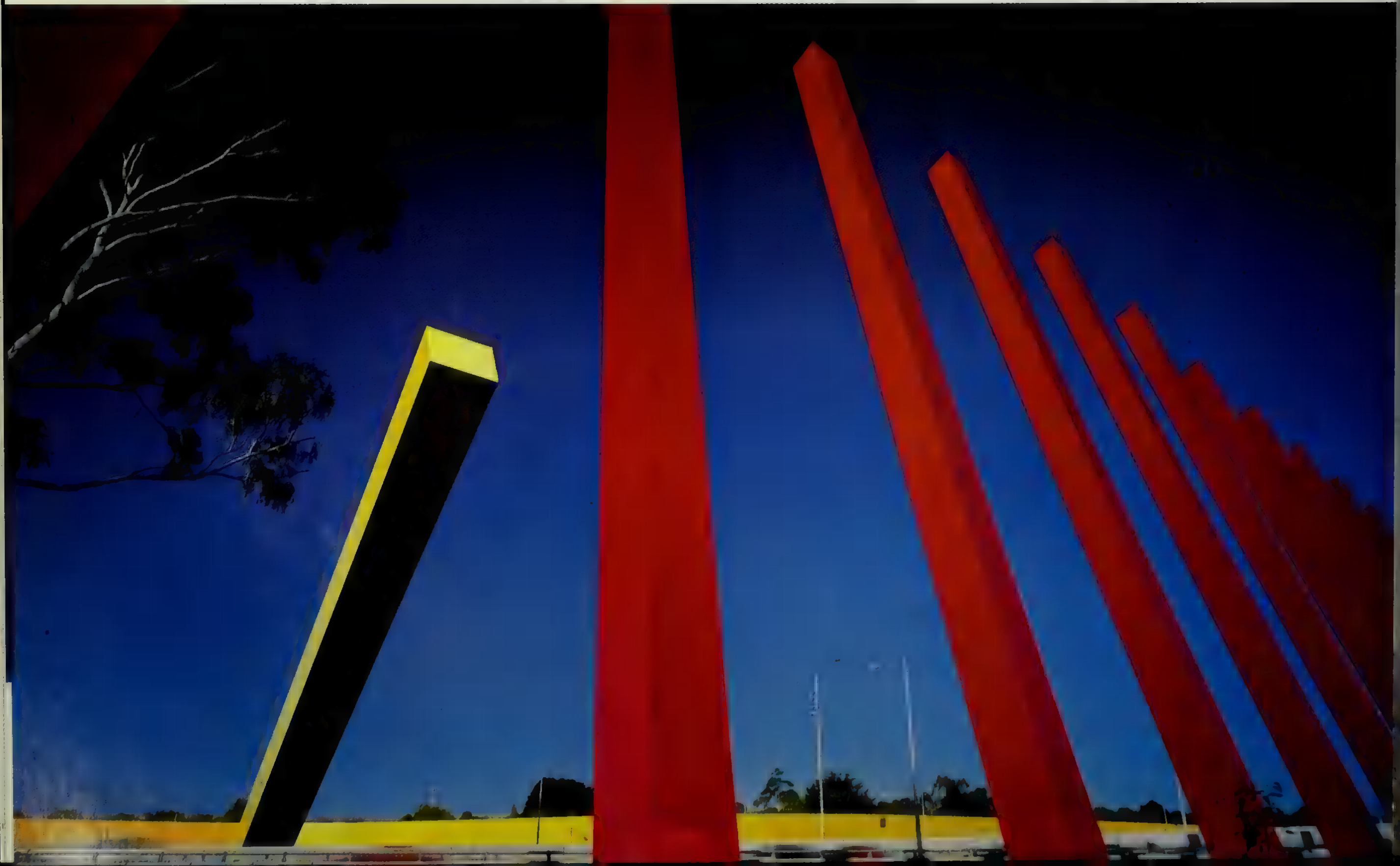
"Scale was critical given the speed of travel and the need to make an 'iconic' impact," says architect John Denton, "so we created a dynamic composition of elements that change as you travel through, making references to city walls—the long sinuous orange sound wall, passing through the red sticks and the boom gate in the open posi-





tion, a direct reference to contemporary gateways we all experience in the car."

Recognizing the monumental impact of the architects' simple, bold, dramatic sculpture, the Melbourne Gateway won the Australian Council of Building Design Professionals Urban Design in Australia Award last year. Chairman of the judging panel Graham Humphries called the project one of "national importance, which will project Melbourne well into the next century." ■



PUT US IN YOUR PLANS

AND WE'LL DELIVER FOR YOU. ANYWHERE.

Looking for a window supplier that can deliver for you, anywhere in America? Look to TRACO.

Historic restorations. Schools and universities. Healthcare facilities. Hotel and motel applications. Office developments. Condominium projects. Whether you have designs on a single project or an entire industrial complex, you can look to us with confidence for retrofit or new construction. And look to us for quality.

We're the only window supplier with six manufacturing facilities strategically located throughout the U.S. to deliver that quality to you – where and when you need it. All backed by one of the most extensive dealer networks in America.

Now that's what we call a plan.

1-800-GO-TRACO • www.traco.com

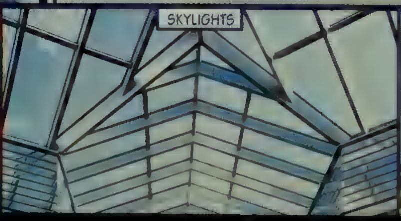
TRACO™

The Windows And Doors That Greet The World

CIRCLE 49 ON INQUIRY CARD

INYL WINDOWS/DOORS

ALUMINUM WINDOWS/DOORS



SKYLIGHTS

IMPACT-RESISTANT WINDOWS/DOORS

EVERYTHING YOU NEED
ABOUT SLOPED SEAT JOISTS C
AT BRANSFORD ELEMENTA

Bransford Elementary School in Grapevine, Texas was built with Vulcraft sloped seat joists.

OW LEARNED HOOL.

Take a lesson from the Bransford Elementary School in Grapevine, Texas. Where the structural engineer saved money using Vulcraft sloped seat steel joists instead of wood construction for the pitched roof design.

Vulcraft sloped seat joists work in even the most complex customized framing jobs where wood construction has often been preferred in the past. But now things are changing. The rising cost of wood construction makes steel joists more competitive than ever. And aesthetic considerations are making pitched roof designs more popular. All across the country, contractors, engineers, and architects are turning to America's largest producer of steel joists for engineering experience, economical pricing, and unique design alternatives.

Sloped seat joists can be designed to fit almost any degree of pitch.

Vulcraft's sloped seat joists can be designed to fit almost any degree of pitch you could want, offer superior strength, and are easy to erect in any kind of weather. And, as we did for Bransford Elementary, we can coordinate the design and delivery of our high quality steel deck to go with our joists, allowing construction schedules to be met and costly delays avoided.

To take full advantage of Vulcraft's engineering expertise with sloped seat joists, contact us early in your design phase. We'll be happy to assist you in finding the most efficient and economical solution for your project.

Sloped seat joists work in even the most complex customized framing jobs.

Maybe it's time you went to the head of the class with Vulcraft. Give us a call or consult Sweet's 05100/VUL and 05300/VUL.

VULCRAFT
A Division of Nucor Corporation

PO Box 637, Brigham City, UT 84302, 801/734-9433; PO Box 100520, Florence SC 29501, 803/662-0381; PO Box 169, Fort Payne, AL 35967, 205/845-2460; PO Box 186, Grapeland, TX 75884, 409/687-4665; PO Box 59, Norfolk NE 68702, 402/644-8500; PO Box 1000, St. Joe, IN 46785, 219/337-1800.
Architect: WRA Architects Inc., General Contractor: Steele-Freeman Inc., Structural Engineer: Randy Cooper, Steel Fabricator: Hutcheson Steel Inc., Steel Erector: Blakeman Steel. Photographs in this advertisement may not reflect complete or final installation. Consult Steel Joist Institute Technical Digest No. 9 for information concerning safe handling and erection of steel joists and joist girders.

CIRCLE 50 ON INQUIRY CARD

One more way to
build on our knowledge

No Chipping, No Flaking

Ultra 90+™

The only ceiling with a warranty against nicks, scratches, chipping, flaking, punctures and indentations.

There's only one way to produce ceiling panels offering the benefits of **Ultra 90+.** You pour them into a mold and cure them slowly. What comes out is a casting... **smooth** yet too strong to crack, scratch, puncture, chip, flake, or sag even to **90% RH and 104°F.** Look to **Ultra 90+** for Ultra-high light reflectance, a variety of **smart edge details,** and **9 designer colors** that aren't just painted on, but, like stone, the colors go clear through. Enough to deserve a **10-year warranty** for long-lasting beauty. There's nothing out there comparing to Ultra 90+ with the **UltraGuard™ finish.** To learn more, visit our learning center, Celotex Tech, at www.celotex.com, or call 1-800-CELOTEX. "We're the Company You Can Talk To."

Celotex

Build On Our Knowledge℠

CEILING TILES / SHINGLES / GYPSUM BOARD / RIGID FOAM INSULATION

CIRCLE 51 ON INQUIRY CARD

© Celotex Corporation. [illegible]

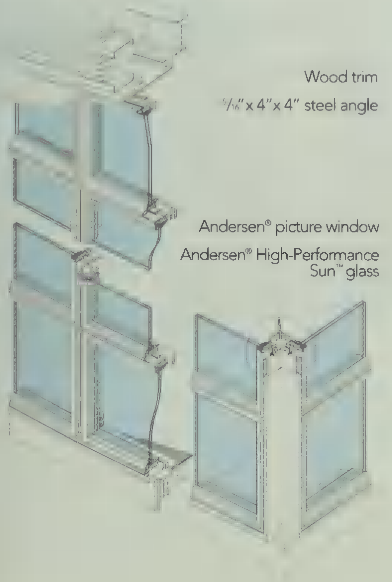
PPG Architects, Inc., Atlanta, GA
Director Of Design and Architect In Charge: Clarence T. Vinson, AIA
Design Associate: Preston Bennett • General Contractor: Dudley Barrett, Atlanta, GA
Fenestration: Andersen® Flexiframe® and casement/awning picture windows
in white color with Perma-Shield® low maintenance exteriors and
energy efficient Andersen High-Performance Sun® glazing

"Andersen," the AW logo, and "Flexiframe" are registered trademarks of Andersen Corporation. All other marks where denoted are marks of Andersen Corporation. © 2000 Andersen Corporation. All rights reserved. 0332A

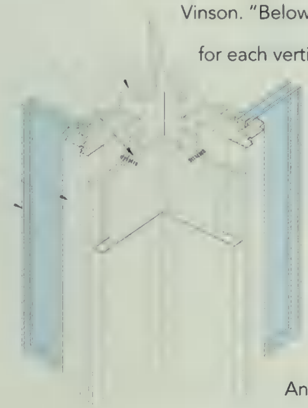
ARCHITECTURE DEFINED

ANDERSEN FLEXIBILITY REFINED

"We wanted our new offices to be a statement about what we do as architects," said Director of Design Clarence Vinson. The result? Using interlocking forms, spatial planes and contrasting materials, this firm defined its profession, and refined the role of Andersen® windows in commercial design. "We used the Andersen Flexiframe® windows in a truly flexible way," said Mr. Vinson. "Below the curved roof soffit, we specified the height for each vertical mullion and the windows were made to fit the arc without curving themselves. Below them, Andersen helped us create a wall of windows by using their standard sized windows with low maintenance exteriors and energy efficient glazing." Andersen people were flexible, too. Said Mr. Vinson, "From the expert support of the architects at Andersen Corporation, to on-time delivery by the local distributor, everyone was incredible." This is how Andersen helps architects achieve imaginative, flexible window solutions. Call on us to play a definitive role in your next project. **Get a CD-ROM portfolio of this and 160 more projects, and our catalog, by calling 1-800-426-7691 reference#2627.**



Wood trim
5/16" x 4" x 4" steel angle
Andersen® picture window
Andersen® High-Performance Sun™ glass



ANDERSEN®
COMMERCIAL

Andersen
AW
Windows · Patio Doors

www.andersenwindows.com

CIRCLE 52 ON INQUIRY CARD

TIMELESS BEAUTY
TIMELY SUPPORT

Get both when you build with architectural copper. Just call 888-4ARCH11 and tap into a complete network of support services — including professional design assistance. • There's also CDA's comprehensive *Copper in Architecture Handbook*. It features design details and specifications — in hard copy and in AutoCAD®/ WordPerfect® files* — for nearly any application. • A six-part videotape series examines the functions, forms and details of different copper roofing styles. • A 72-minute video installation guide covers all copper roofing systems. • You also get access to CDA's databases, publications, training programs, manufacturers and local supplier/contractor listings. They're all part of CDA's "Copper in Architecture Program" — providing the assistance needed to put copper's timeless beauty and dependability to work in your next project. For a free copy of our brochure, *Copper in Architecture* call **888-4ARCH11**. And visit us at ***http://www.copper.org.***

COPPER DEVELOPMENT ASSOCIATION INC.

260 Madison Avenue, New York, NY 10016

CIRCLE 53 ON INQUIRY CARD

AutoCAD is a registered trademark of Autodesk, Inc.
WordPerfect is a registered trademark of Corel Corporation
* On 3½" IBM-compatible disks

American Institute of Architects 2000 Honors & Awards

Architecture p. 94

Interiors p. 110

Urban Design p. 124

25-Year Award p. 134

Gold Medal p. 145

Firm Award p. 166

The U.S. is enjoying its longest period of sustained economic growth since record keeping began in 1854. The construction business is robust: While activity has slowed from the torrid pace of the last two years, the slight improvement reported during the first three months of 2000 suggests the industry is "stabilizing at what is still a very healthy level," according to industry tracker F.W. Dodge. We all know what this means: Architects are busy.

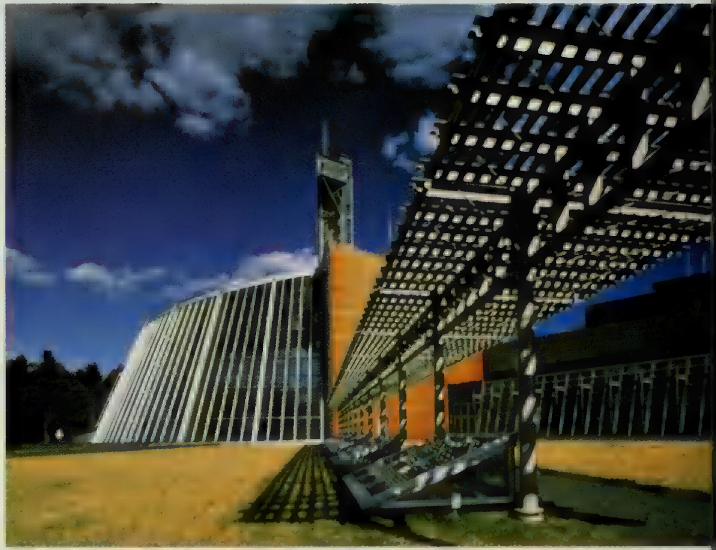
So busy, in fact, that the American Institute of Architects named a record number of 38 winners when it came time to reveal its 2000 Honor Awards. To judge from the character of these honored projects, American architects are finding work in a wide variety of locales and building types.

Architects were cited for the restoration of classic icons, such as the rehab of San Francisco's city hall and plans for a new Penn Station in New York. Other award-winning projects range from a sustainable-growth scheme for southeast Florida and a cabin in rural Washington to a park-and-ride center in Iowa. Some projects involve injecting new life into moribund sections of American cities, such as Detroit and Louisville, while others address far-flung spots, including Shanghai and Hong Kong—where waterfront districts are being redeveloped—and Malaysia and Turkey. Richard Meier, FAIA, was a three-prize winner, taking home two architecture awards as well as the 25-Year Award for his Smith House in Connecticut.

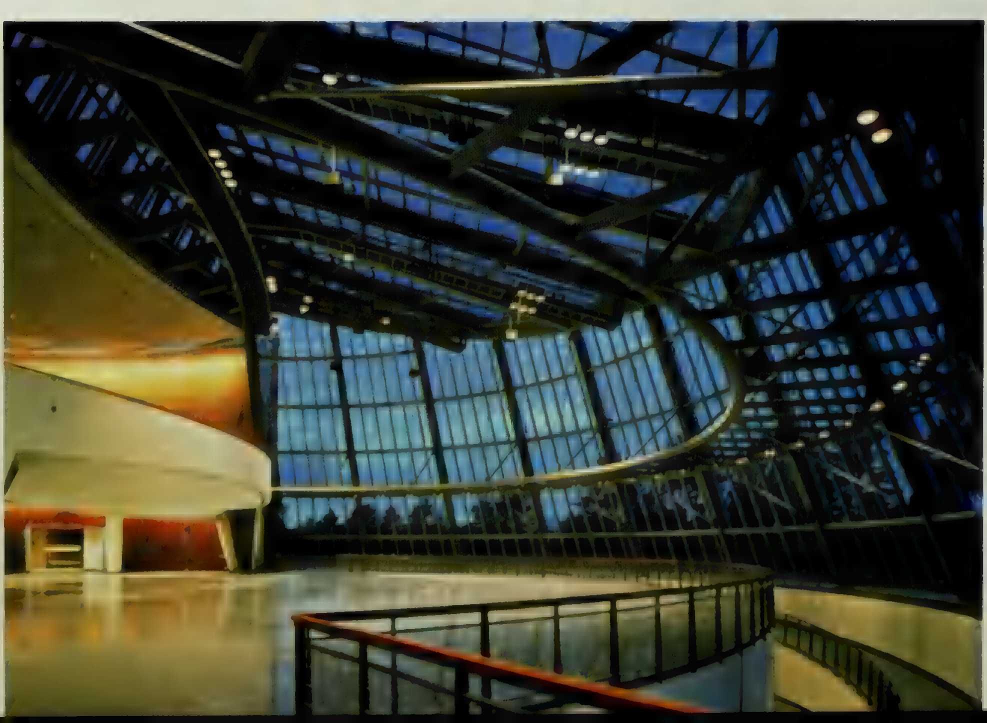
The following pages chronicle the full selection of this year's winners, along with features on the AIA's two top honors: the Firm Award, which went to Gensler, and Gold Medal, bestowed on Ricardo Legorreta. Accompanying quotes, taken from the jury's decisions, shed light on what makes this work exceptional. Soren Larson

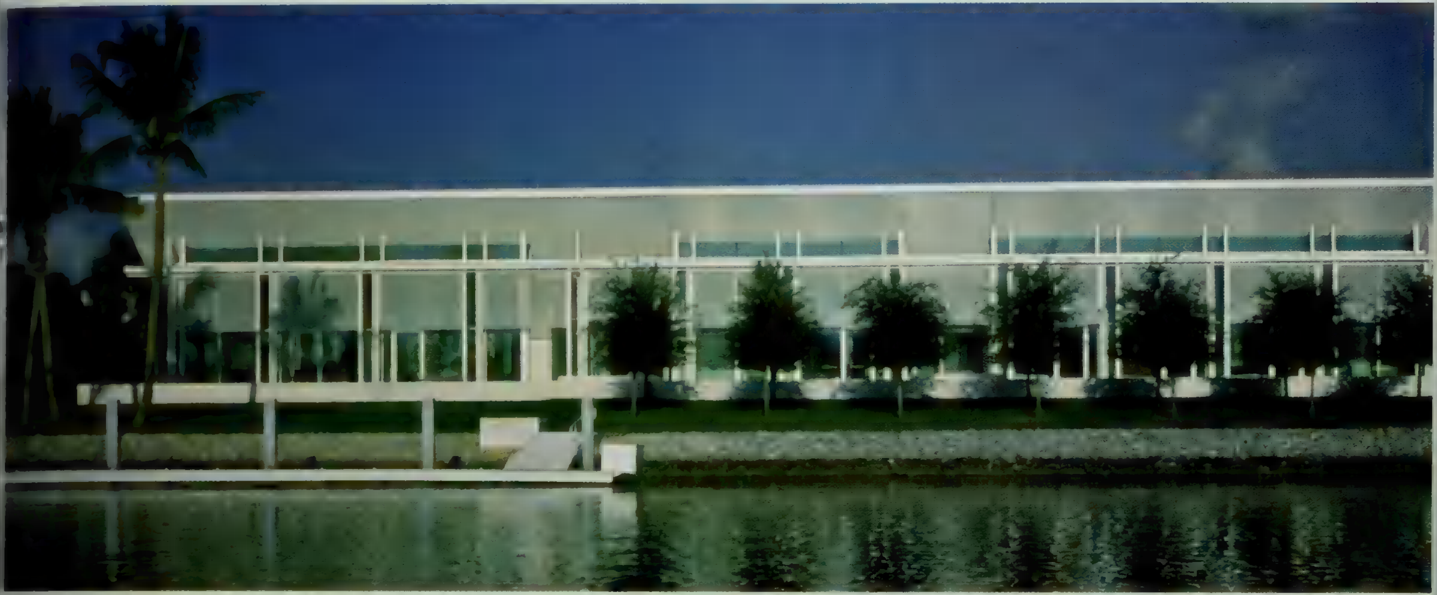
Mashantucket Pequot Museum and Research Center
Mashantucket, Connecticut
Architect: *Polshek Partnership Architects*

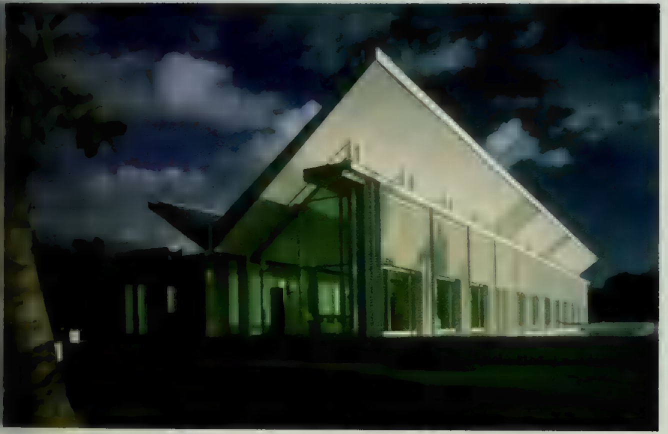
The architects used three principal program elements—gathering space, museum, and research center—to provide a link to the cultural heritage of a Native American tribe.



"A COMPLEX PROGRAM RENDERED WITH TOUCHING ATTENTION TO HISTORICAL AND CULTURAL REFERENCES, WITH ORIGINALITY AND IMPRESSIVE REFINEMENT IN DETAIL."







Neugebauer House
Naples, Florida
Architect: *Richard Meier & Partners*

The house, on a wedge-shaped waterfront site, is approached via a winding access road lined with palm trees. The front lawn is uninterrupted except for a cluster of palms and a low, opaque cylinder that discreetly encloses a two-car garage. The horizontal front of the house is clad in two-by-three-foot limestone slabs.

"AN ACROPOLIS OF BEAUTIFUL FORMS CONTAINING A COMPLEX PROGRAM OF CONTEMPLATION, CIRCULATION, AND WONDER."

The Getty Center
Los Angeles
Architect: *Richard Meier & Partners*

The center, an unusual cultural campus, brings together all the components of the J. Paul Getty Trust on a hilly, 10-acre site jutting southward from the Santa Monica Mountains into a residential neighborhood [November 1997, page 72].

Search

ing for the answer

Identify and compare products the simple way – the c-z.com marketplace.

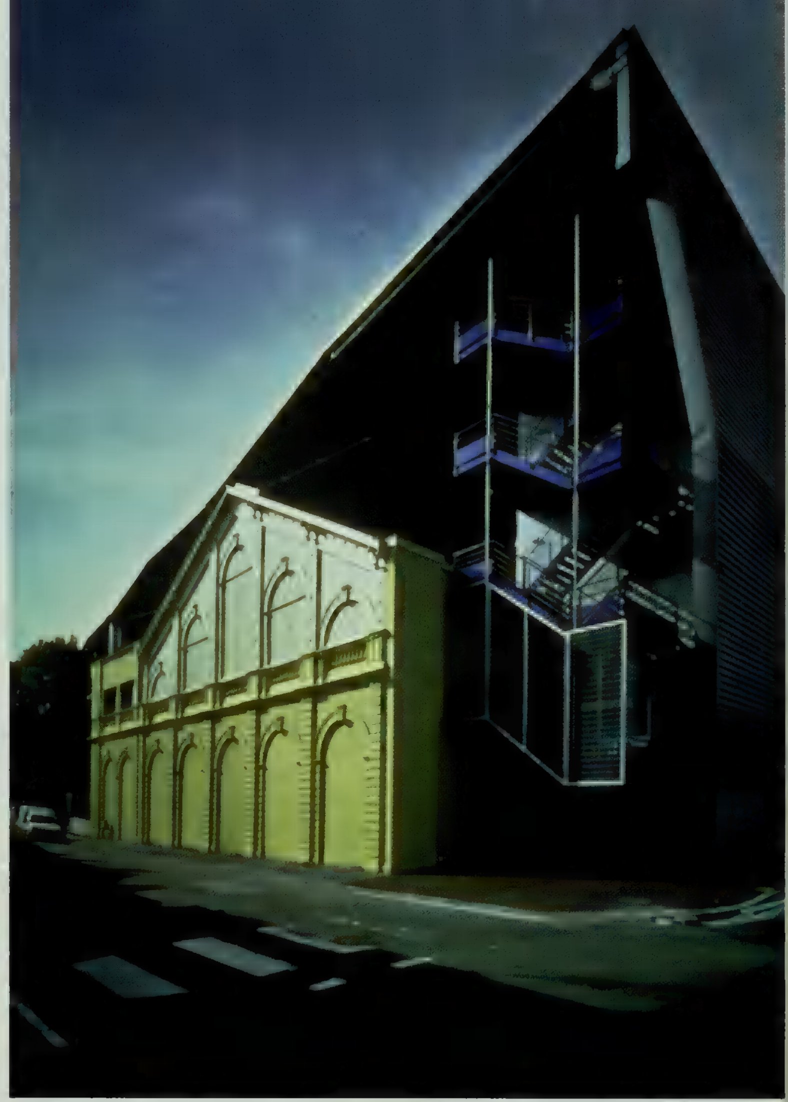
C-Z .com

www.c-z.com

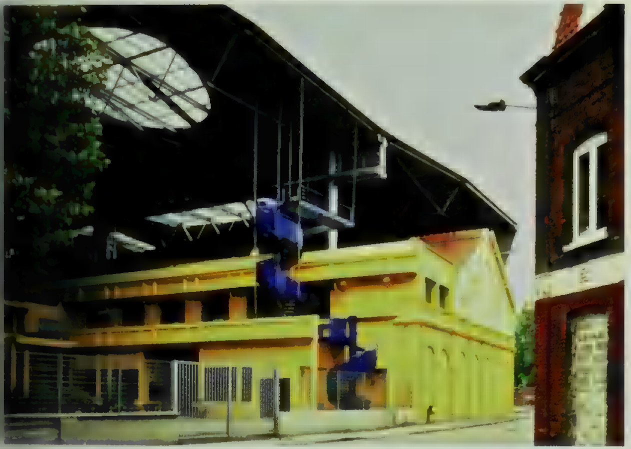
CIRCLE 54 ON INQUIRY CARD

Le Fresnoy National Studio for Contemporary Arts
Tourcoing, France
Architect: *Bernard Tschumi Architects*

To protect existing structures and house additional, multifunctional programs such as exhibition halls, a huge roof was built to cover both old and new.



"THE CONCEPT OF HAVING A PROTECTIVE COVER FOR EXISTING STRUCTURES IS IMMENSELY INTRIGUING."



Kaufmann House Restoration
Palm Springs, California
Architect: *Marmol and Radziner Architects*

A house originally designed by Richard Neutra in 1946 was meticulously restored to its original form, size, and aesthetic. The architects removed any additions that were not part of Neutra's plan [September 1999, page 92].

"IN THIS HOUSE THE DESERT BLOOMS AGAIN. WITH METICULOUS CARE AND SKILL, THE ARCHITECTS HAVE RESTORED A LANDMARK STRUCTURE AND SITE."

We're strong, solid, and dependable.

In other words, not just another pretty face.

Presenting the first gypsum sheathing with no face layer. New USG® Fiberock® Brand Sheathing with Aqua-Tough™ is engineered to offer superior strength and water resistance without the need for face layers. That means no delamination, stronger attachment and long lasting system performance.

USG Fiberock Brand Sheathing's patented Aqua-Tough formula provides integral water resistance throughout the panel, while the embossed drainage pattern on the back quickly removes intruding water.

For long lasting performance, install the only sheathing that's water resistant from the surface through the core – USG Fiberock Brand Sheathing.

USG FIBEROCK® BRAND SHEATHING

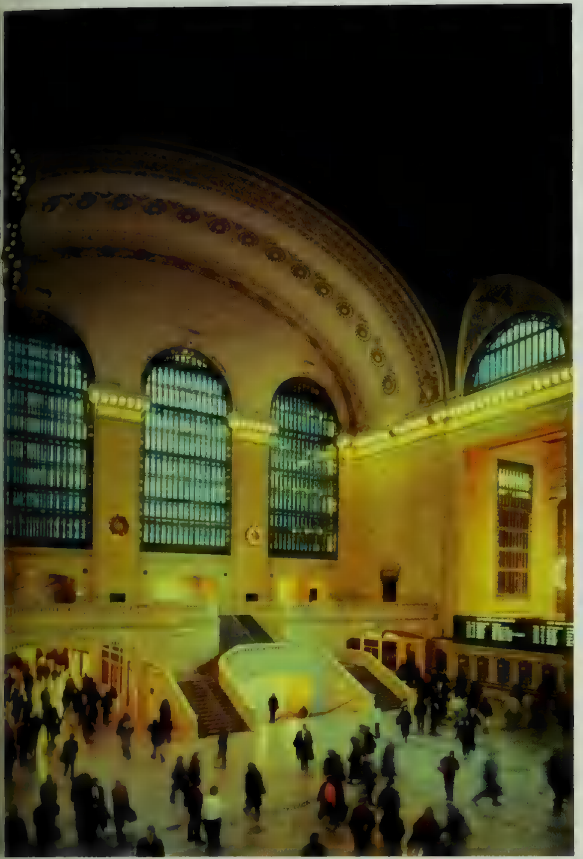
CIRCLE 55 ON INQUIRY CARD

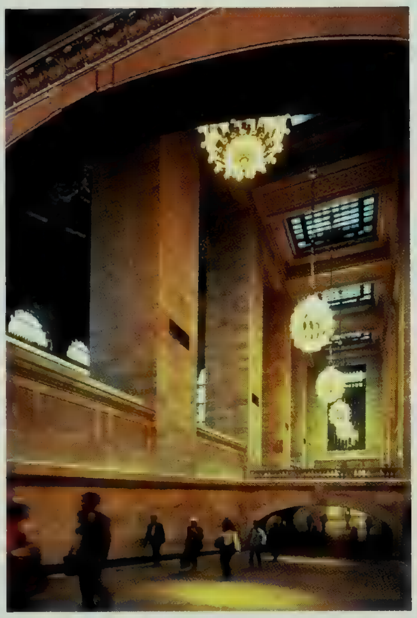
official building products supplier

NASCAR®

www.usg.com 1-800-USG-4YOU
©2000 USG Corporation

NASCAR® is a registered trademark of the National Association for Stock Car Racing Auto Racing, Inc.





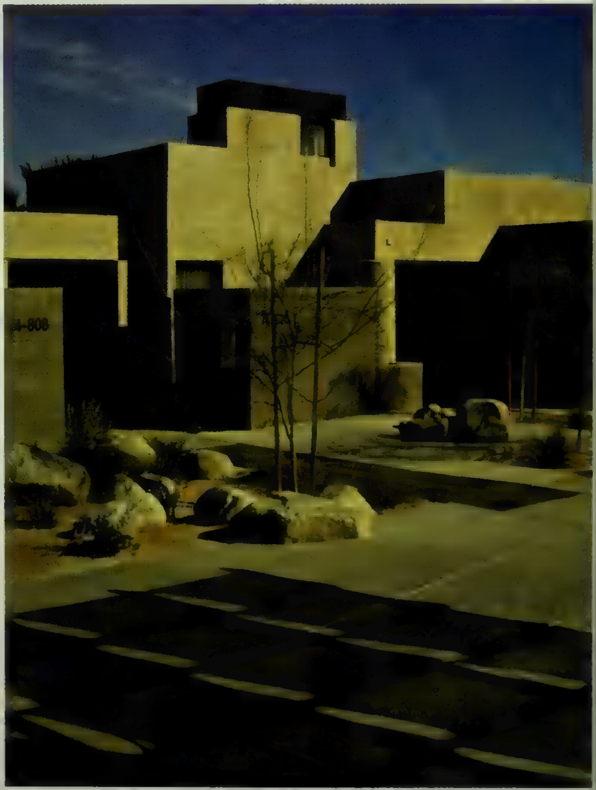
Grand Central Terminal
New York City
Architect: *Beyer Blinder Belle Architects & Planners LLP*

A New York landmark was in dire condition until a revitalization plan brought it back to full use. The marble was cleaned, escalators and a monumental staircase added, and the ceiling constellations restored to view [February 1999, page 84].

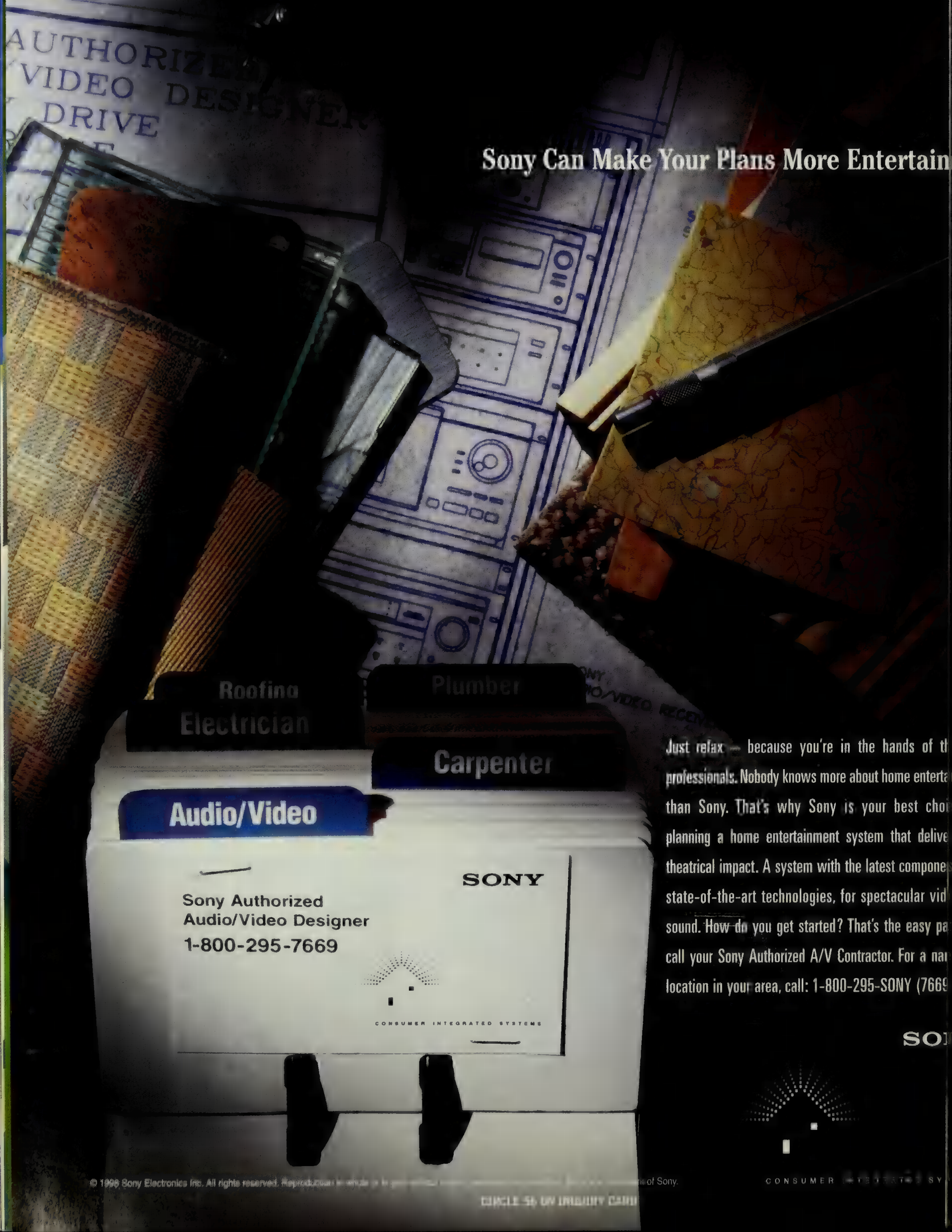
"AN IMPORTANT CIVIC SPACE OF GRAND SCALE HAS BEEN RESTORED AND REVITALIZED WITH BOTH SKILL AND RESPECT."

Desert housing for low-income seniors
Indian Wells, California
Architect: *Studio E Architects*

The need to keep climate-control costs down for low-income seniors dictated a design that uses building orientation and shading devices to keep residents cool.



"A HIGH LEVEL OF CLIMATE-SENSITIVE DESIGN. AN OASIS-LIKE SETTING FOR COMFORTABLE DESERT LIVING."



Sony Can Make Your Plans More Entertain

Just relax — because you're in the hands of th
professionals. Nobody knows more about home enterta
than Sony. That's why Sony is your best cho
planning a home entertainment system that delive
theatrical impact. A system with the latest compone
state-of-the-art technologies, for spectacular vid
sound. How do you get started? That's the easy pa
call your Sony Authorized A/V Contractor. For a na
location in your area, call: 1-800-295-SONY (7669

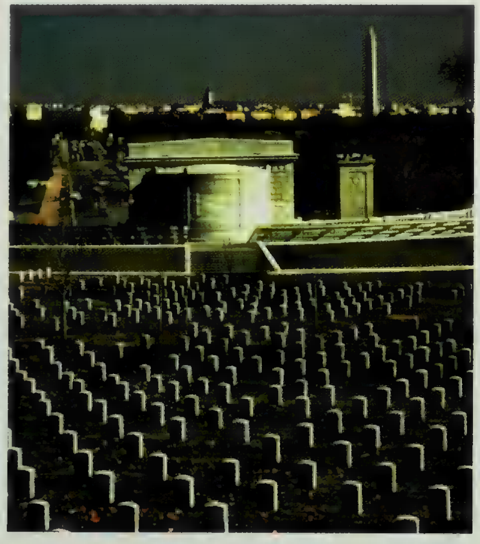
SO

CONSUMER SY

© 1996 Sony Electronics Inc. All rights reserved. Reproduction [illegible] of Sony.

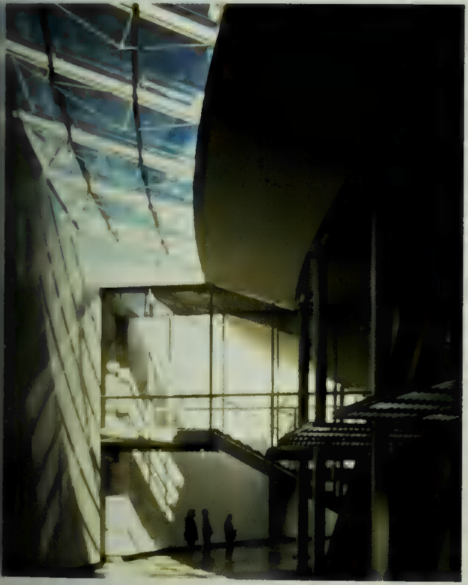
CIRCLE 56 ON INQUIRY CARD

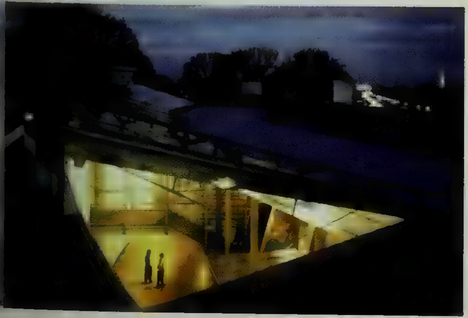
"PERFECTLY ADAPTED TO ITS SITE, INVENTIVE, EVOCATIVE, AND SUPREMELY APPROPRIATE AND NOBLE."

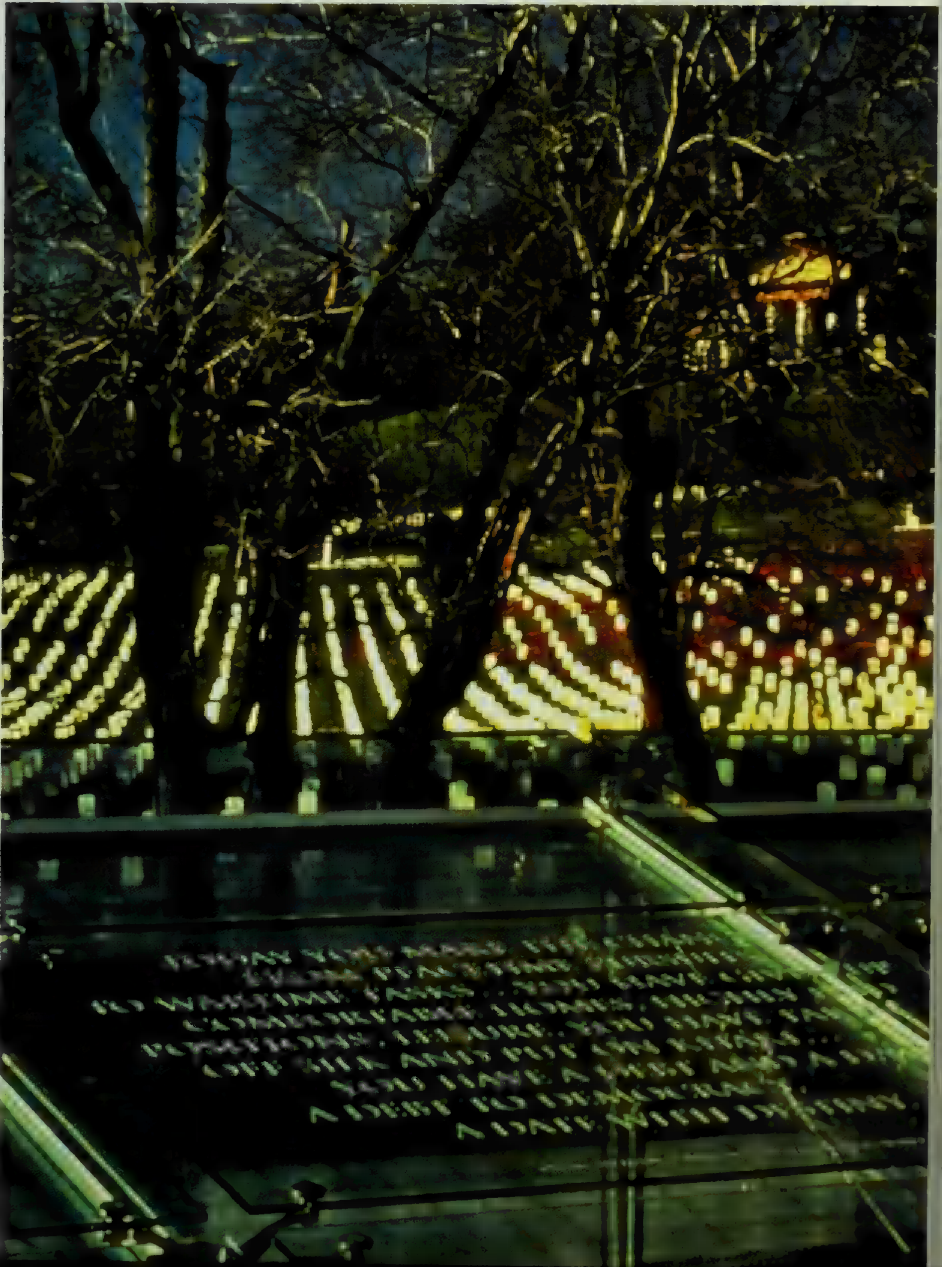


Women's Memorial and Education Center
Arlington, Virginia
Architect: *Weiss/Manfredi Architects*

This memorial, commemorating women's efforts in the defense of the U.S., is defined by a 250-foot-in-diameter arc of glass tablets that is illuminated at night.







NECA/IBEW CONTRACTORS • WE DO MORE

We're not in the insurance business, but we sell peace of mind.

There's no substitute for getting the job done right the first time. NECA/IBEW contractors have the best trained workforce to head off potential problems before they happen and to insure healthy performance on any job.

NECA/IBEW contractors deliver peace of mind on all types of electrical construction jobs, especially those involving the latest technologies. NECA contractors can also monitor the efficiency and reliability of a power distribution system, providing preventive maintenance that saves money and helps to avert system breakdowns.

When you need the job done right the first time, on time and on budget, call a NECA/IBEW contractor.

To hire an electrical contractor who employs IBEW workers, contact your local NECA chapter or IBEW local union. To find a NECA contractor, call The NECA Connection at 800-888-6322 or visit our website.

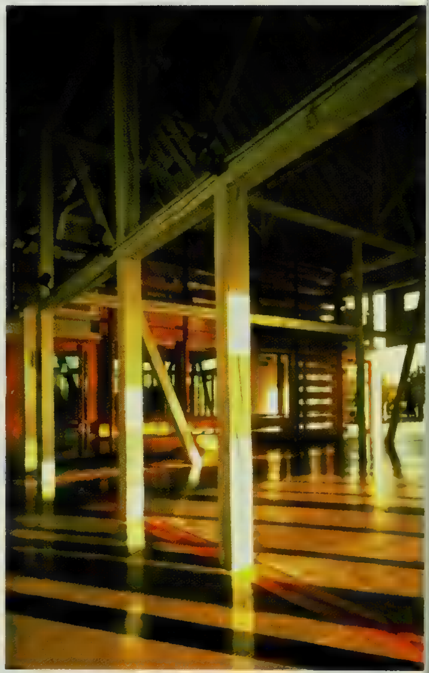
http://www.necanet.org

National Electrical Contractors Association
International Brotherhood of Electrical Workers

A COMMITMENT · THE QUALITY CONNECTION TO EXCELLENCE

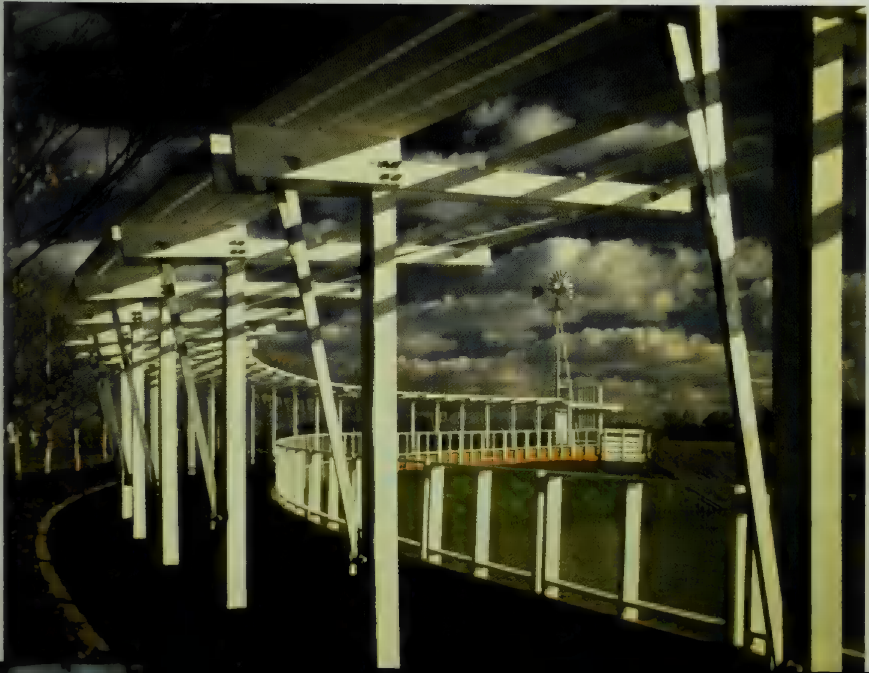
CIRCLE 57 ON INQUIRY CARD

"EXTRAORDINARY, SIMPLE COMPOSITIONS OF OLD AND NEW ELEMENTS PROVIDE A SPECIAL AND HISTORICAL PERSPECTIVE."



Olympia Fields Park and Community Center
Olympia Fields, Illinois
Architect: *Weiss/Manfredi Architects*

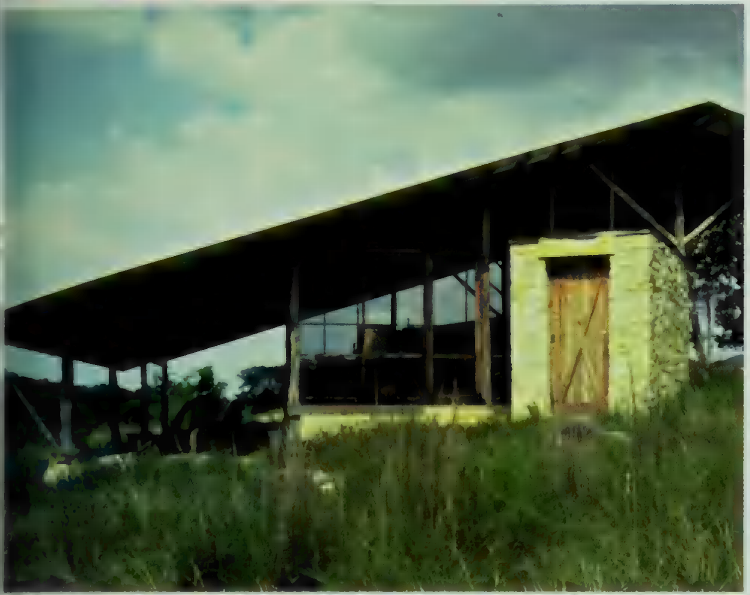
The architects' plan for a community center combines an existing park with an adjacent 10-acre farm that has turn-of-the-century barns and a farmhouse. Community center offices, meeting and support spaces, and a multipurpose room are in a barn, while a silo addition holds a library annex and meeting room.



sustainable design

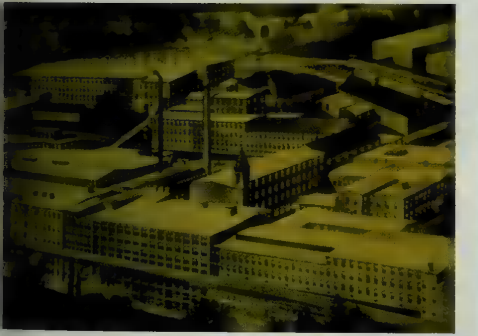
[illegible]

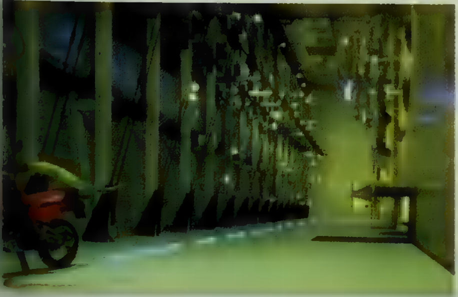
www.maderatile.com
1.800.767.4495
CIRCLE 58 ON INQUIRY CARD



The Hill County Jacal
Pipe Creek, Texas
Architect: *Lake/Flato Architects*

Named for a Mexican term referring to a lean-to structure, this country house, sited on a rock ledge, is oriented toward the southeast and prevailing summer breezes while turning its stone back to the north winter wind. A screen-enclosed space with a curved stone wall holds fireplace, sleeping, and cooking alcoves, while a bathroom and storage rooms are placed at the ends.





"A PRESERVATION AND EXPOSURE OF THE EVOLUTION OF CONSTRUCTION TECHNIQUE IS EFFECTIVE."

Massachusetts Museum of Contemporary Art
North Adams, Massachusetts
Architect: *Bruner/Cott & Associates*

A new complex for Mass MoCA emerged from a 19th-century manufacturing complex. While the patina of history was preserved and honored, courtyards were created by selective removal, areas filled with columns were demolished, floors were removed, and grand galleries emerged [August 1999, page 58].

AND THE SKY'S THE LIMIT.

Looking for a skylight manufacturer who is also a valued business partner? Look to TRACO Skytech Systems,® Inc. and our SkyTeam Partnership Program.

From design development, through bidding and manufacturing to construction of skylight projects, the Skytech SkyTeam will be there from the ground up. Design support includes specification consultation, three dimensional skylight visualization and modeling, as well as seminars, hands-on workshops and full-time management personnel dedicated to your business – your needs.

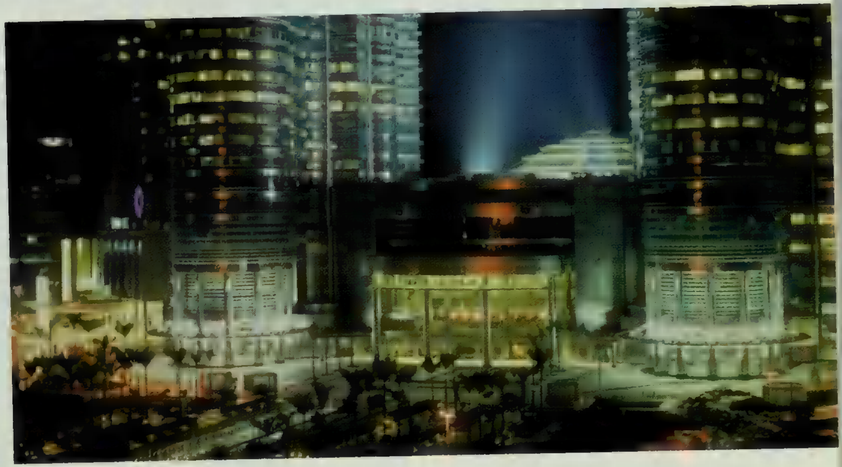
Add the beauty and function of our product and a single-source partnership with the largest distribution network in America, and you'll see why things are looking up. TRACO Skytech Systems,® and the SkyTeam Partnership Program.

Now that's what we call a plan.
CIRCLE 59 ON INQUIRY CARD
1-877-270-9484 • www.skytechsys.com

TRACO™
Skytech Systems®, Inc.

Kuala Lumpur City Centre, Phase I
Kuala Lumpur, Malaysia
Architect: *Cesar Pelli & Associates*

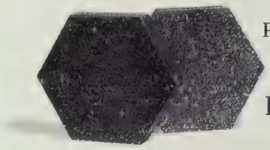
Local colors, patterns, and crafts characterize the massive Petronas complex: two 88-story towers, a concert hall, parking for 5,000 cars, and an entertainment galleria at the base [January 1999, page 92].



"A UTILITARIAN PROJECT CARRIED OUT WITH FINESSE AND INNOVATIVE ATTENTION TO DETAIL."

Center Street Park and Ride
Des Moines
Architect: *Herbert Lewis Kruse Blunck Architecture*

This project was intended to limit traffic within the central business district by locating parking for workers on the near periphery of downtown. The architects conceived a large rectangular box to house the vehicles, while glass-and-steel elevator and stair towers provide views and humanize the large scale of the garage.



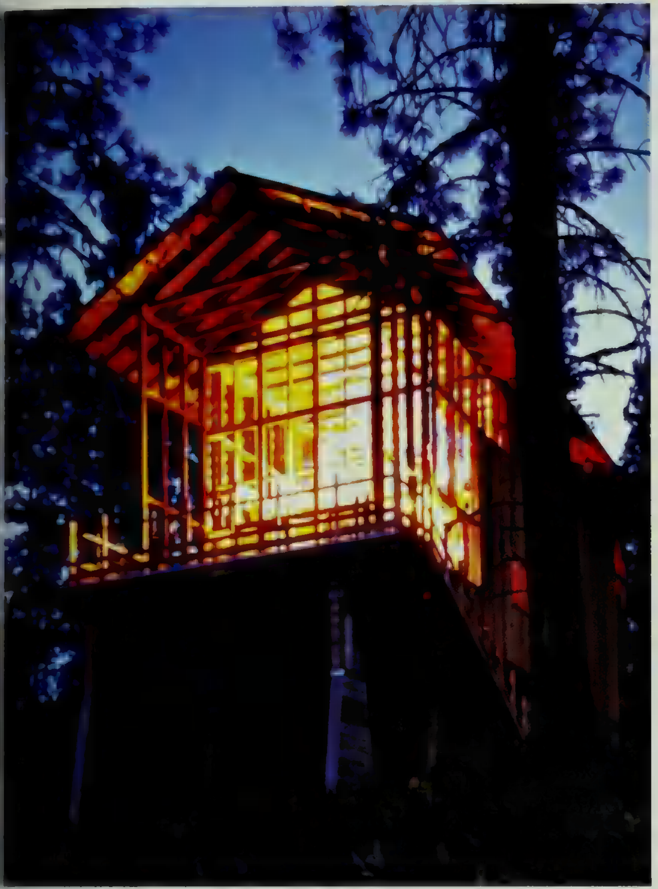
Asphalt Block.
Not one of our usual concrete Solutions.

Hanover® has developed a line of Asphalt Block unit pavers to compliment our concrete paving products. Asphalt Block is a unique paving alternative for many reasons. The paver's asphaltic qualities make them comfortable to walk on, fire resistant, and sound absorbent. Specialized methods of manufacturing enable the production of an extremely dense paver with a near zero percent rate of absorption. Available in several sizes and a variety of colors and textures. Hanover® Asphalt Block can benefit any project.

All Project Photos:
North Shore Esplanade Saint George,
Staten Island, NY
Landscape Architect: Johansson & Walcavage

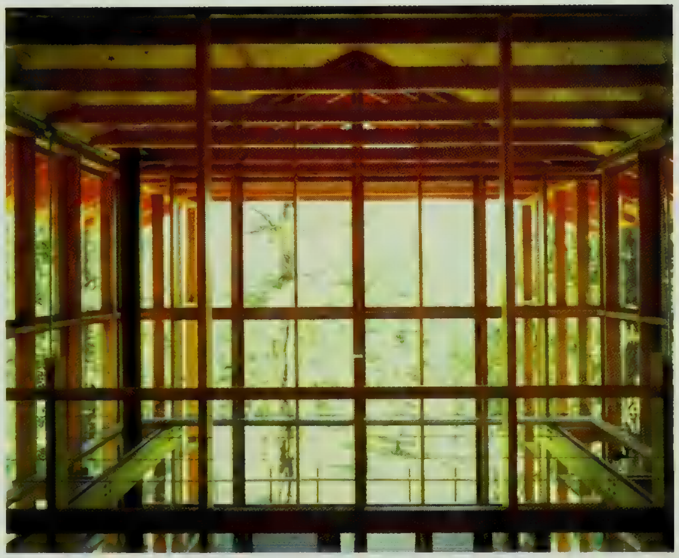
HANOVER®
Architectural Products
Where Concrete and Imagination Meet
240 Bender Road, Hanover, PA 17331
(voice) 717-637-0500 (fax) 717-637-7145
http://www.hanoverpavers.com

CIRCLE 60 ON INQUIRY CARD

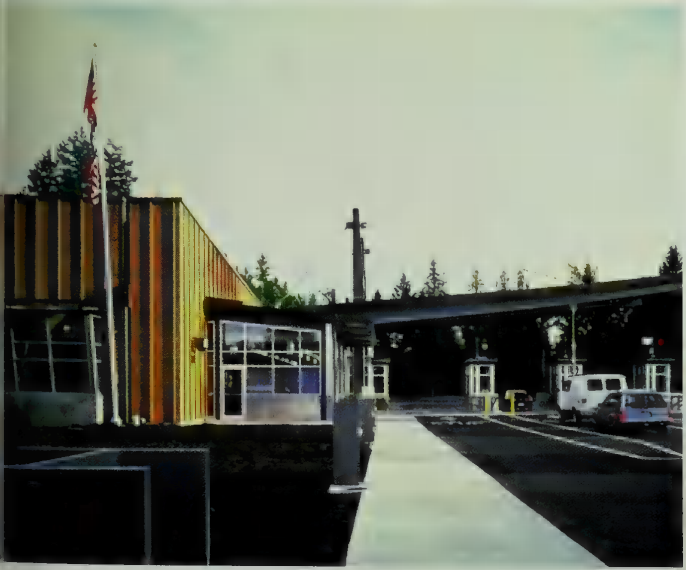


Methow Valley Cabin
Winthrop, Washington
Architect: *James Cutler Architects*

Concrete piers carry a framed "box," allowing the building to hover over a slope with minimal impact. The two-bedroom retreat captures views while offering substantial covered areas that provide shelter from sun and snow. The design exposes as much of every framing member as possible.



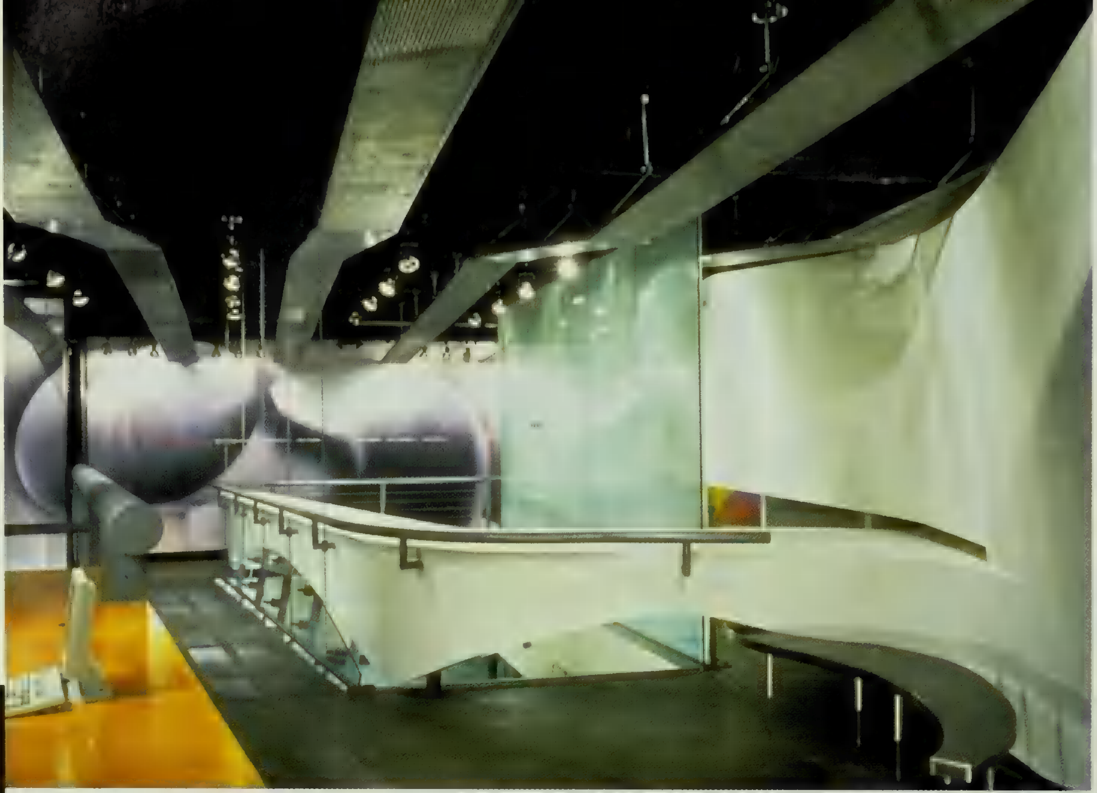
"SENSITIVITY TO SITE, BEAUTIFUL DETAILING, CLEAR EXPRESSION OF MATERIALS AS COMPONENTS AND UNIT."



U.S. Port of Entry
Point Roberts, Washington
Architect: *The Miller/Hull Partnership*

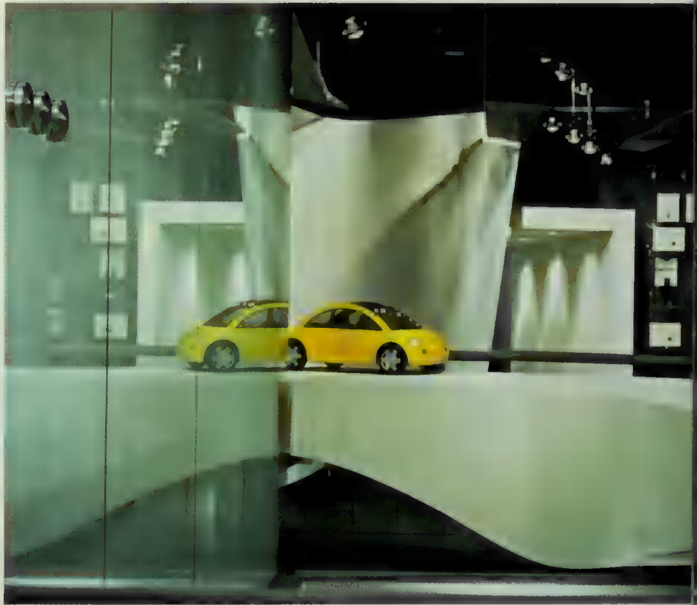
For the first station along the Canadian border to be commissioned under the General Services Administration's Design Excellence Program, the architects focused on integrating an appropriately scaled and elegantly detailed building—structured as a bridgelike gateway—with a forested setting to mark the international boundary.

"A DEFTLY ARTICULATED STRUCTURE WITHIN A PALETTE OF SIMPLE, ECONOMIC MATERIALS: WOOD, STEEL, AND GLASS."



SHR Perceptual Management Workspace
Scottsdale, Arizona
Architect: *Morphosis Architects*

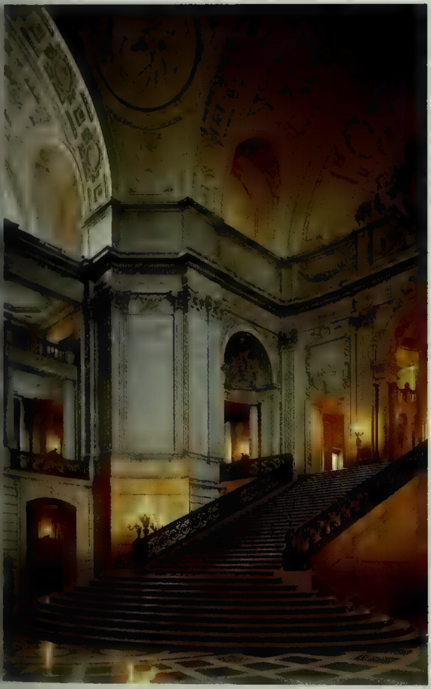
These offices for an advertising agency were designed to reflect company's egalitarian ideology. The imagery becomes a common language that allows for clear communication between disciplines, departments, and consumers.

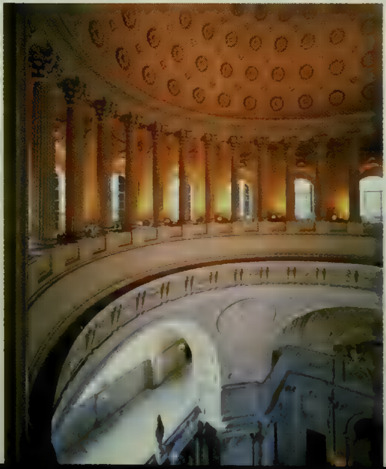


"SPATIALLY ENERGIZED ARCHITECTURE, SINUOUS SCULPTURE, FELT MATERIALITY AND UNFELT UNIVERSE BEYOND."

San Francisco City Hall Improvement Project
San Francisco
Architect: *Heller-Manus Architects (Supervising Architects); Komorous-Towey Architects/Finger & Moy Architects*

The centerpiece of the San Francisco Civic Center, the city hall features the fifth-tallest dome in the world. It has been transformed into a state-of-the-art public building but still preserves its historic architecture [June 1999, page 53; February 2000, page 156].





"AN EXTRAORDINARY SERIES OF SPACES TAKEN APART, MADE TECHNICALLY CURRENT, AND PUT BACK TOGETHER IN A FLAWLESS WAY."

A FORTUNATE FEW *live awake* IN THE WORLD.

In uncertainty you find possibility;

in the ordinary you see the exceptional.

Be aware of the larger world around you—

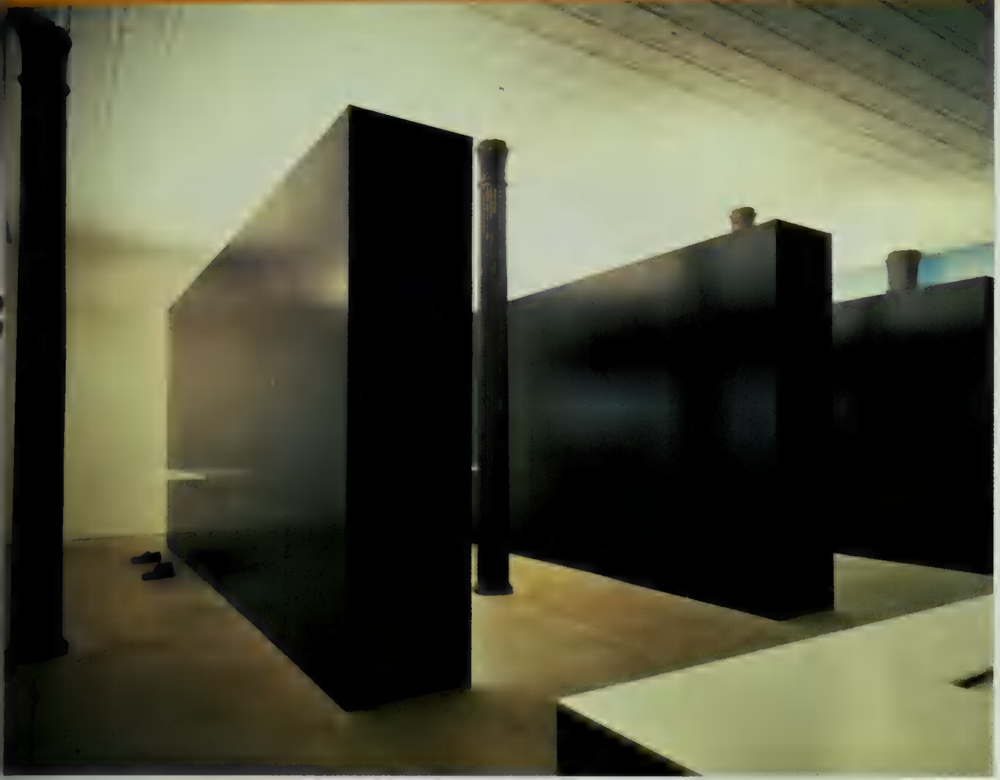
it is fuel for your imagination.

INVISION
CARPET SYSTEMS

DISTINCTION IS ACHIEVABLE

CIRCLE 61 ON INQUIRY CARD

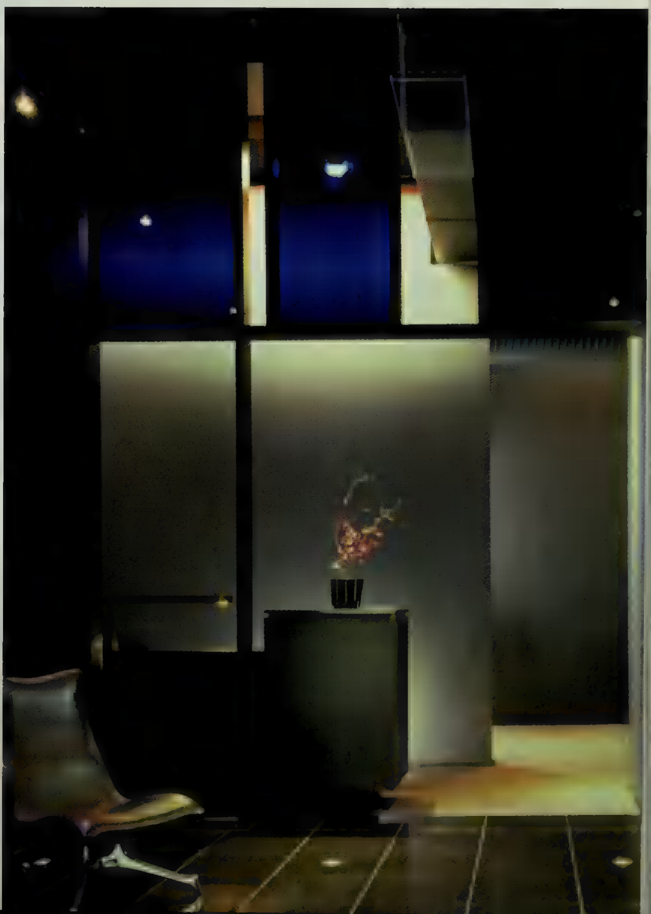
Invision carpets are available in more than 45 patterns and 144 colors. · www.invisioncarpet.com · 1.800.859.9558



Helmut Lang Boutique
New York City
Architect: *Gluckman Mayner Architects*

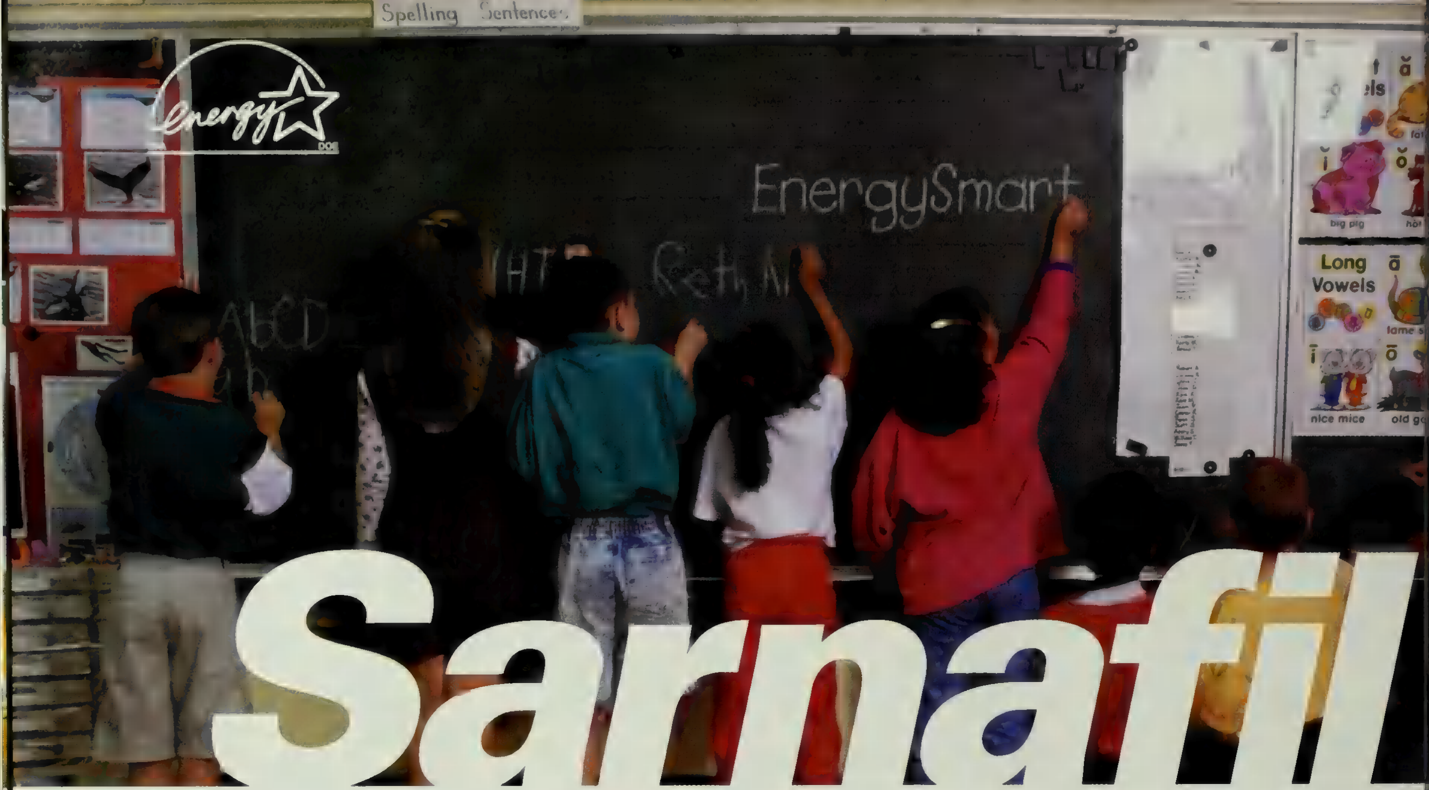
For the renovation of a 3,500-square-foot loft into a flagship retail store for a clothing designer, the architects located the merchandising area toward the rear—unusual for a boutique—while using the front space as a reception area [October 1999, page 99].

> **"THE TEXTURAL ELEMENTS AND ACCENT LIGHTING ARE STRIKING—DISPARATE ELEMENTS THAT WORK IN CONCERT."**



Ackerman McQueen Advertising Executive Offices and Video Conferencing
Tulsa
Architect: *Elliott + Associates Architects*

The client wanted theater; the architects created a main entry that puts visitors inside a transparent "blue box" of moving images and a "shadow-catcher wall," where a 50-foot textured glass slit allows the sun to create moving silhouettes of passersby.



Sarnafil

The smart way to keep a roof over their heads.

Putting educational funds where they count can be as easy as putting a Sarnafil ***EnergySmart Roof***™ over their heads. With ***ENERGY STAR***® compliant EnergySmart roofing, you'll start saving on HVAC costs immediately. Savings that keep on going for generations to come. Savings you can redistribute to vital educational spending. EnergySmart's highly reflective, thermoplastic roofing surface significantly reduces solar heat gain and lowers air conditioning costs by reducing heat from entering buildings in the first place.

James Clark Elementary School
Agawam, MA

In fact, ***EnergySmart Roof***™ has one of the highest reflectivity and solar reflective indexes of all roofing membranes tested by the Lawrence Berkeley National Laboratory. Backed by Sarnafil's 35-year track record of international success, EnergySmart's heat-welded membrane technology quite simply delivers performance and durability you can count on for decades.

Lower energy consumption. Lower operating costs right now. Life cycle savings for years to come. As you plan new construction, reroofing – or how best to comply with impending EPACT mandates for HVAC efficiencies – check out the facts. Call Sarnafil today for a free brochure and free sample of Energy Smart Roofing.

Choose the smart way to keep a roof over their heads. A Sarnafil ***EnergySmart Roof***™. The ceiling on educational spending just got a lot higher.

The EnergySmart Roof™

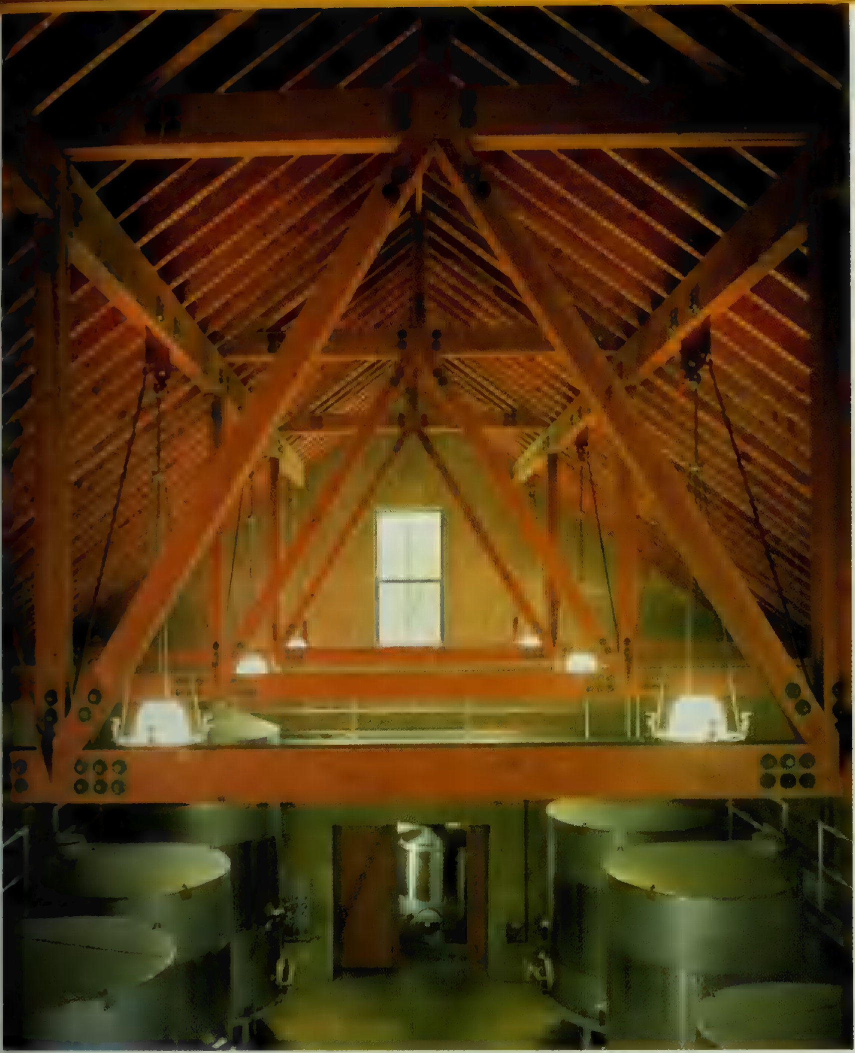
Sarnafil Inc.
100 Dan Road
Canton, MA 02021
Tel: 1-800-576-2358
Fax: (781) 828-5365
Email: webmaster@sarnafilus.com
Web: http://www.sarnafilus.com/ar.htm

Sarna
Sarnafil Division

CIRCLE 62 ON INQUIRY CARD

---

*As an ENERGY STAR® Partner, Sarnafil has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.



Long Meadow Ranch Winery
St. Helena, California
Architect: *Turnbull Griffin Haesloop*

The winery's interior spaces range from production-oriented ground-floor rooms and cave cellar to the workroom, conference room, and private office upstairs. The plywood roof decking was stained to match the color of red wine. The downstairs features concrete floors and galvanized steel corners detailed for forklift traffic.

"WARM AND INVITING WITH SEAMLESS INTEGRATION OF THE INTERIORS WITH THE EXTERIOR."

Farnsworth House
Plano, Illinois
Architect: *Lohan Associates*

In 1996, the landmark Mies van der Rohe residence was completely flooded; the architects authentically restored the house to its original quality with fine materials and furniture.

The right door can make any place more inviting.

Now, think what our custom doors could do for your home. A door with no boundaries, save those of your imagination. A door handcrafted in the Old World style from the most beautiful hard woods available: Genuine Mahogany, Cherry, Maple, Walnut and Northern Red Oak. International Wood Products can deliver this door. All the way from your mind straight to your dream home. 1-800-877-9482 ext. IWP2 www.iwpdoor.com

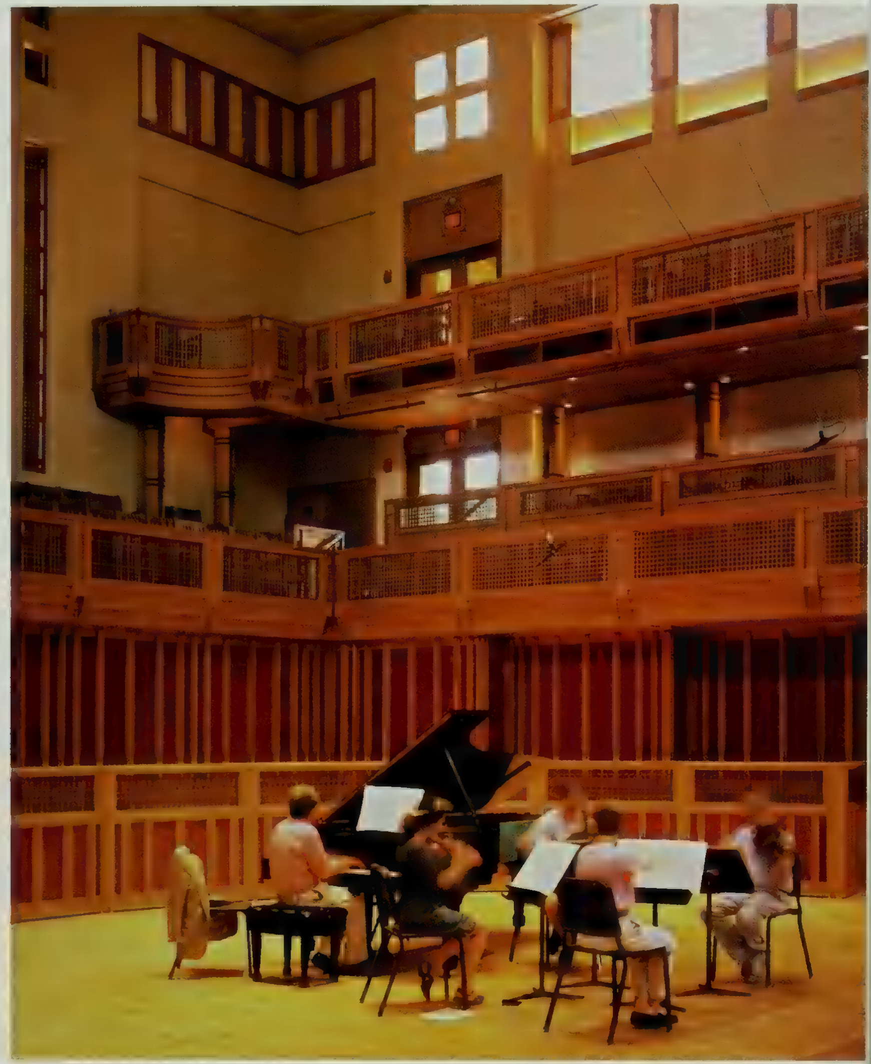
IWP

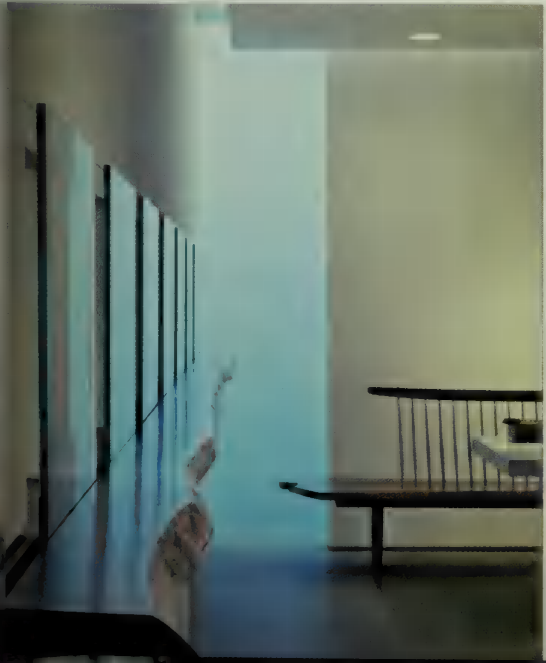
©1998 JELD-WEN, inc. All rights reserved. [illegible] JELD-WEN, inc. Klamath Falls, OR

CIRCLE 63 ON INQUIRY CARD

Seiji Ozawa Hall at Tanglewood
Lenox, Massachusetts
Architect: *William Rawn Associates, Architects*

This new concert hall fosters intimacy and immediacy between audience and performer and celebrates the sense of community, democracy, and simplicity found in New England meetinghouses.



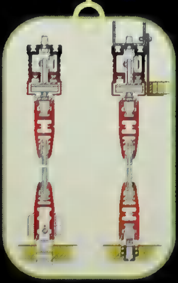


"THE CONTRAST BETWEEN ROUGH-HEWN AND FINISHED WOOD AND A PRISTINE ENVELOPE OF PLASTER AND GLASS IS PERVASIVELY SENSUAL."

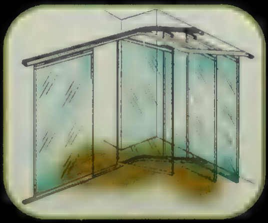
Colleen B. Rosenblat Jewelry Showroom and Office
Hamburg, Germany
Architect: *Gabellini Associates*

The design for this jewelry showroom, located in a former carriage house, balances a sense of openness and accessibility with atmospheric lighting and the need for security.

MOVE 880 LBS. OF GLASS WITH YOUR LITTLE FINGER.

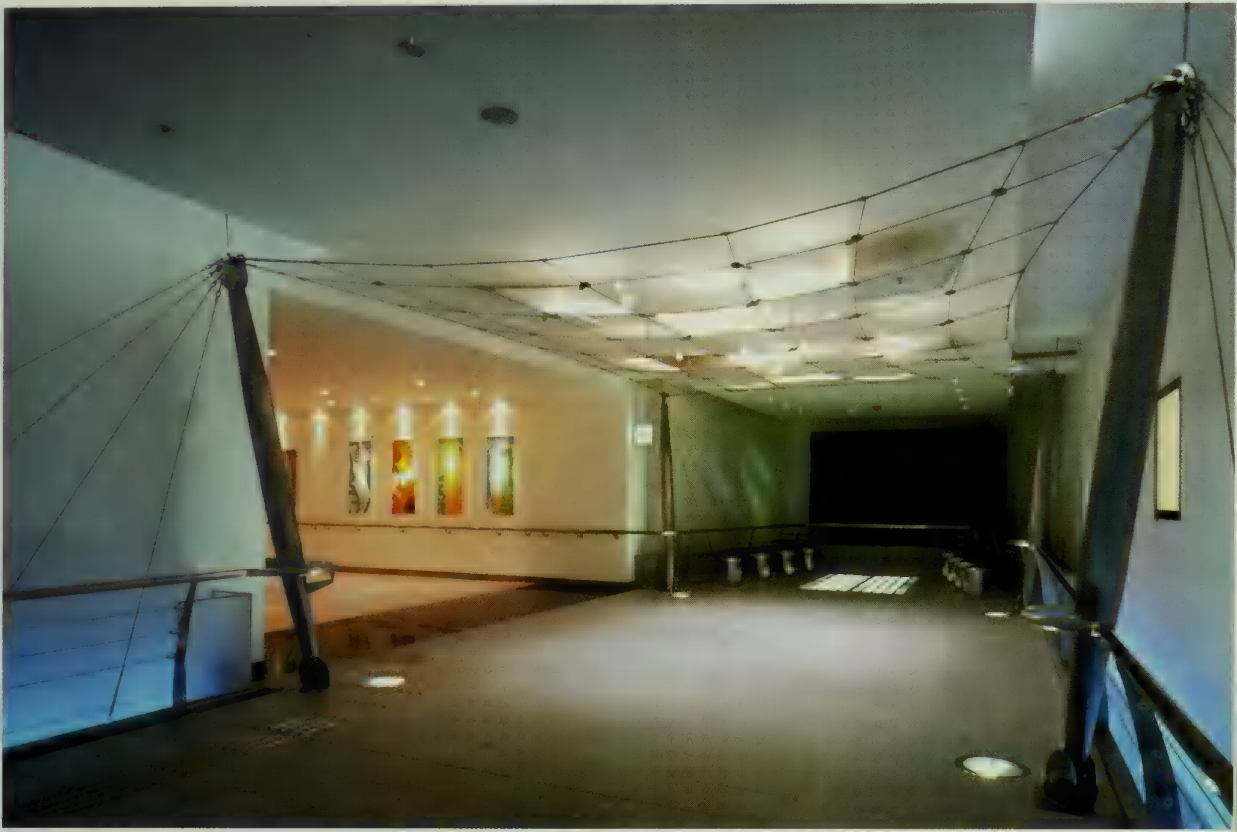


Hawa sliding hardware systems add motion to glass. Panels weighing up to 880 lbs. travel along straight or curved tracks, and they park neatly in a recess or against a wall. For our comprehensive planning and technical support, contact the Häfele Architectural Products Group: 1-888-437-7477.



HÄFELE

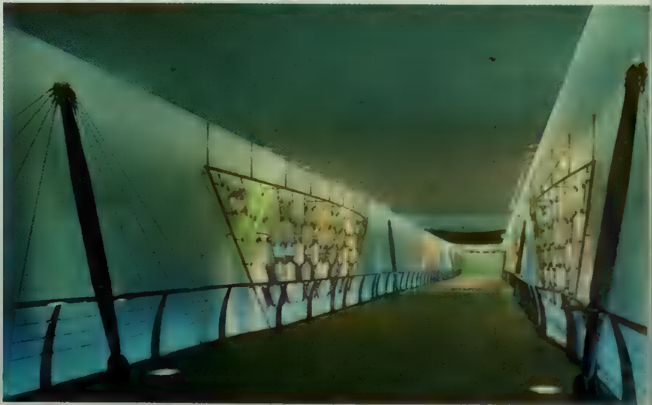
CIRCLE 64 ON INQUIRY CARD



Iwataya Passage
Fukuokashi, Japan
Architect: *WalkerGroup/CNI*

This public underground connection between a train station and department store is animated by an interactive sound program, a water theme, and a series of three pedestrian "bridges," constructed of steel, steel cable, and suspended glass.

> "THE MULTISENSORY NATURE MAKES IT A MOMENT OF PLEASURE, AN ESCAPE FROM THE URBAN REALM."



vinyl
by design

flooring

electrical

wall covering

fencing, decking & railing

piping

windows

siding

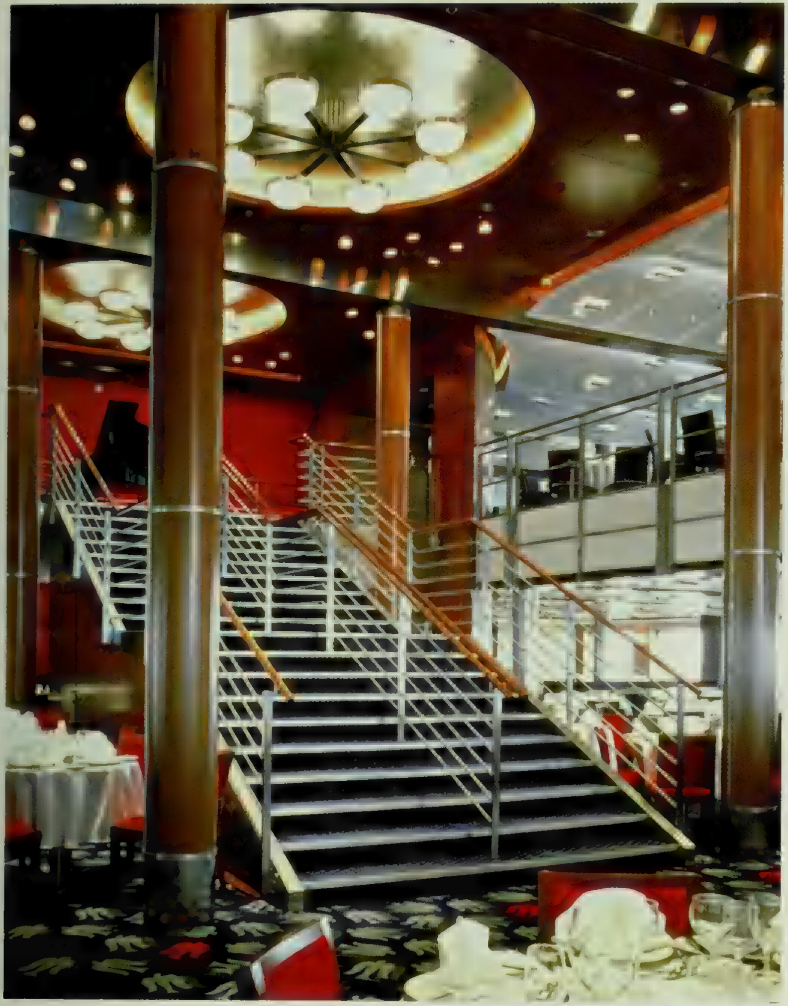
roofing

Vinyl. It's versatile, durable, safe and easy to maintain in any building design. No wonder more and more architects and designers are choosing vinyl by design. Learn more about vinyl and continuing education opportunities by visiting www.vinylbydesign.com or by calling [illegible]

vinyl by design

CIRCLE 65 ON INQUIRY CARD

Photos reprinted with permission of Armstrong World Industries, Inc.; EVC International NV; RIF International Corporati
Industries Inc.; CertainTeed Corporation; Kohlmeyer Inc.; Exterior Home Fashions; Wolverine; and Sanatil Inc. All rights



"WITH ELEGANT DETAILING, A THEME RESTAURANT WITHOUT THE KITSCH."

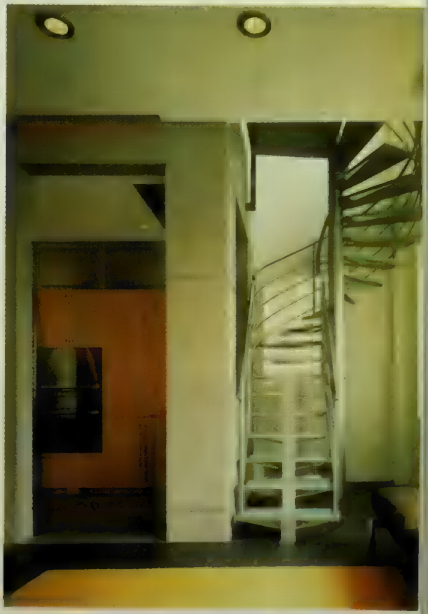
Oceanliner Dining Room and Lounge
Miami (registration)
Architect: *Shelton, Mindel & Associates, Architects*

The new ship Mercury *features a consistent building vocabulary that draws on exposed web beams, riveted paneling, stainless steel, teak, and perforated metal to express the ship's structure.*

Fifth Avenue Duplex
New York City
Architect: *Shelton, Mindel & Associates, Architects*

To renovate a prewar apartment, the floor slab was removed in three places, providing a sense of light and airiness. The living room was transformed into a double-height salon. A sculptural stair is contained in a vertical limestone element.

"THE MODERN DETAILING IS WELL THOUGHT OUT, WITH ALL ROOMS BROUGHT TO THE SAME LEVEL OF EXECUTION ... A SERENE COMPOSITION."



17

CATALOG 17
YOUR COMPLETE SOURCE FOR ARCHITECTURAL METAL COMPONENTS

Julius Blum & Co., Inc. is proud to announce the arrival of its Catalog 17. Continuing the tradition of attention to style and detail, Catalog 17 includes product information on our traditional and contemporary metal components in aluminum, bronze, nickel-silver, steel and stainless for use in handrails, elevator cabs, building facades and other architectural applications. Each catalog includes a CD with downloadable CAD drawings. Call, write or e-mail for your **free** copy.

JULIUS BLUM & CO., INC.
CATALOG 17

STOCK COMPONENTS
FOR ARCHITECTURAL METAL WORK

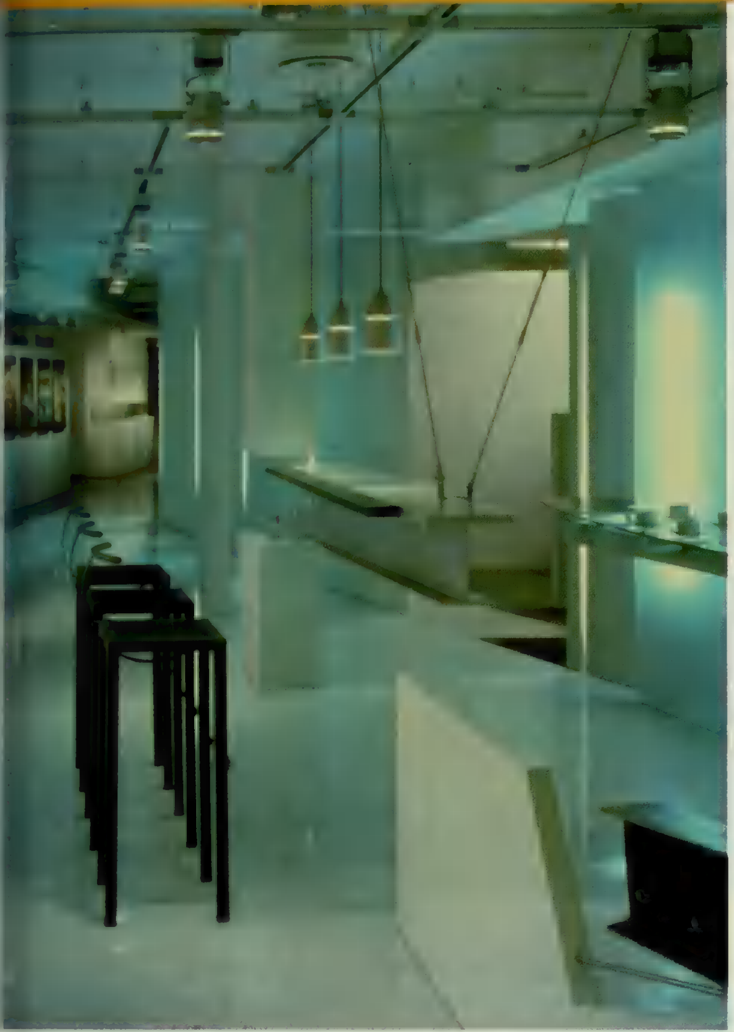
JULIUS BLUM & CO., INC.

P.O. BOX 816 CARLSTADT, N.J. 07072-0816

800 526 6293 WWW.JULIUSBLUM.COM **FAX 201 438 6003**

e-mail: bluminfo@juliusblum.com

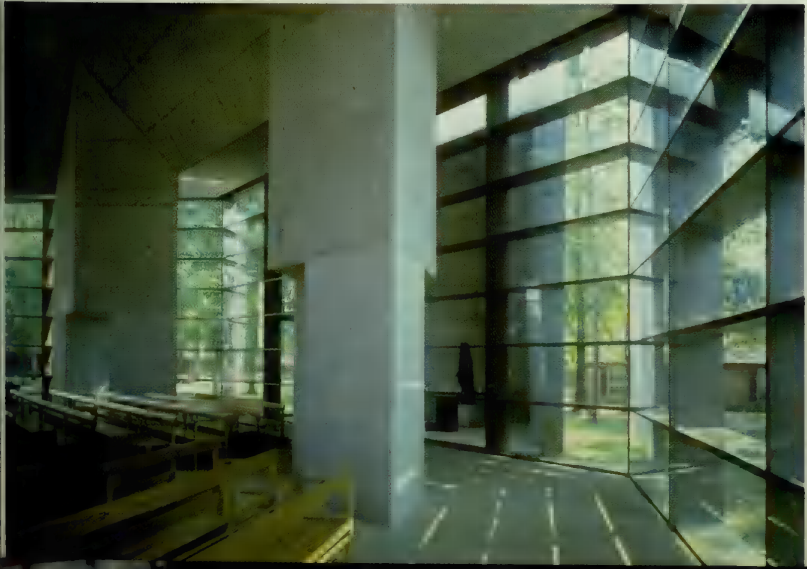
CIRCLE 66 ON INQUIRY CARD



Greenwell Goetz Architects Design Studio
Washington, D.C.
Architect: *Greenwell Goetz Architects*

The architects designed a creative, stimulating workspace for themselves, with offices that are flexible, allowing for ongoing rearrangements while avoiding a warehouse look. The furniture and lighting meet high ergonomic standards.

> **"TO ACHIEVE THIS KIND OF SPIRITUAL INTENSITY WITHOUT OVERT SYMBOLISM OR TRADITIONAL IMAGERY IS A LEAP OF FAITH."**

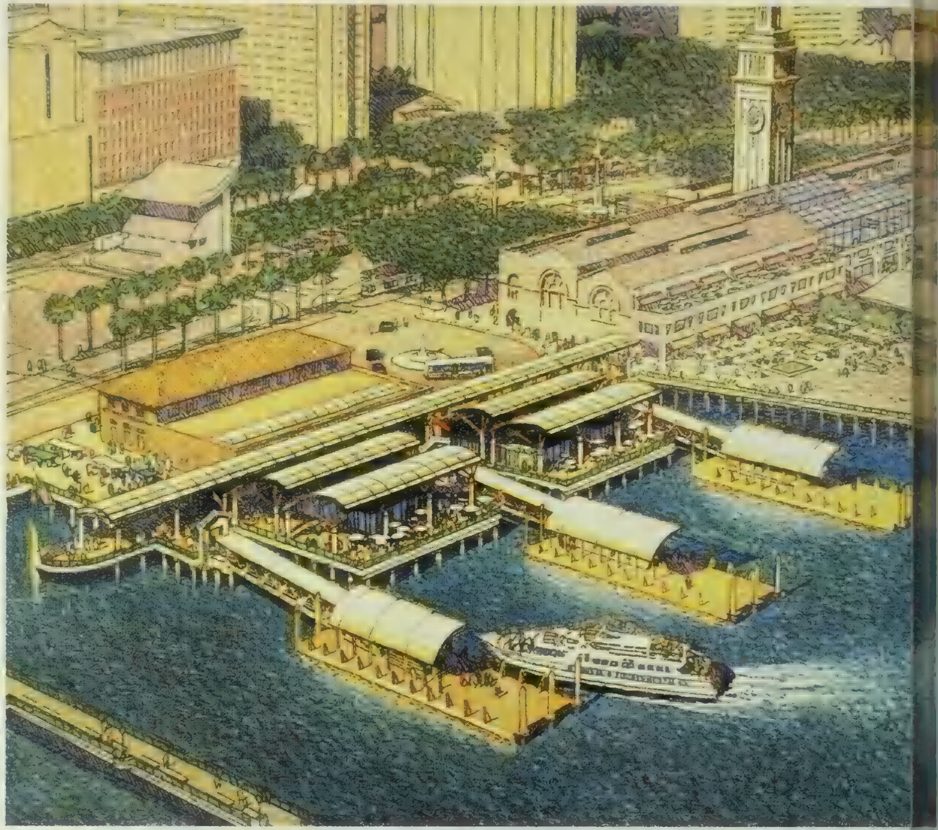


St. Jean Vianney Catholic Church Sanctuary
Baton Rouge, Louisiana
Architect: *Trahan Architects APAC*

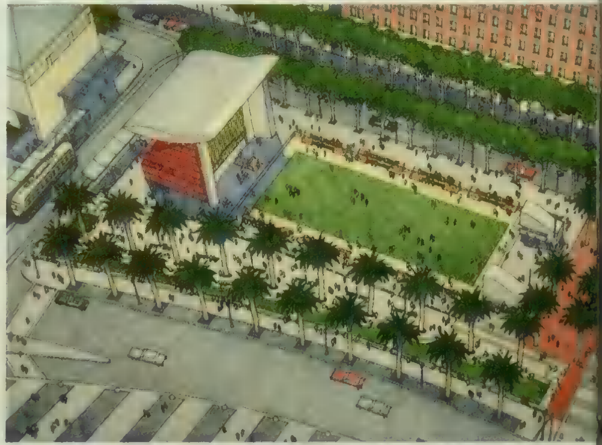
Here, simple forms and materials are meant to exalt the integrity of worship. With ample light, physical boundaries seem to dissolve.

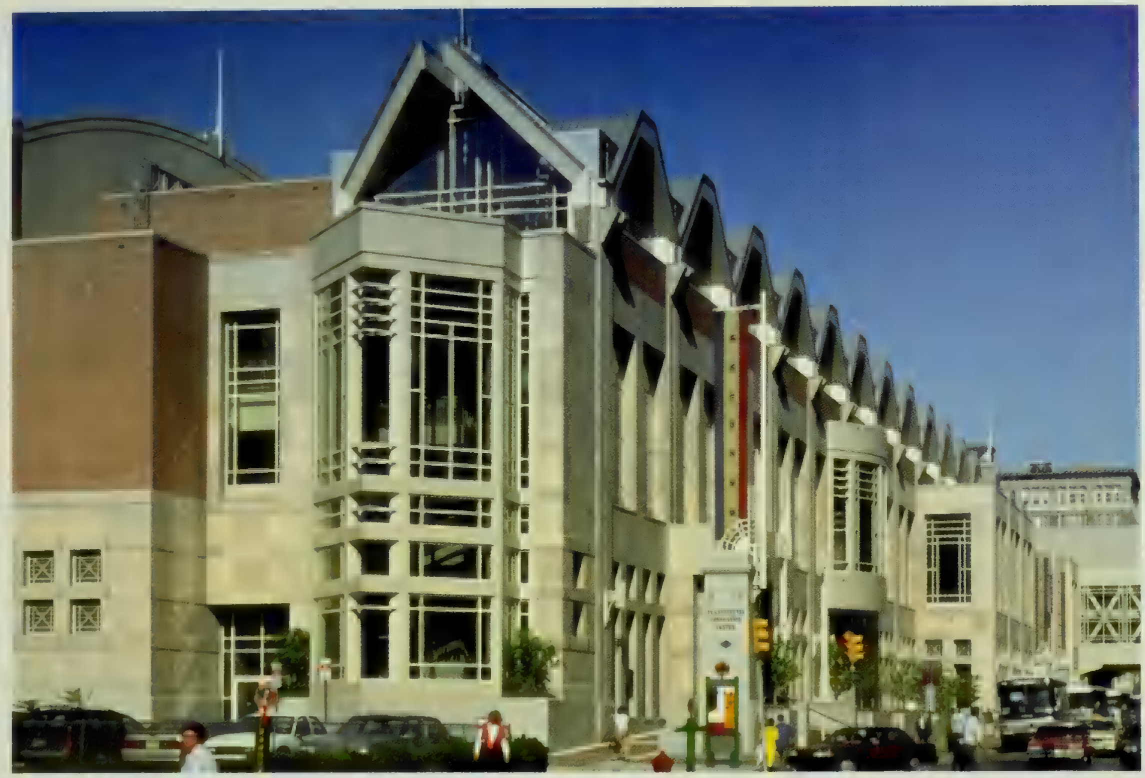
Mid-Embarcadero Open Space/Ferry Terminal
San Francisco
Architect: *ROMA Design Group*

The mid-Embarcadero waterfront improvements are part of an urban design strategy to reposition the area as a meeting place as well as a movement corridor. The area now has the potential for a broad range of public uses, from major gatherings and civic events to everyday social and recreational activities.



"A VERY LARGE SPACE IS DIVIDED INTO URBAN ROOMS OF SPECIFIC USE, SPATIAL DEFINITION, AND VITALITY."





Pennsylvania Convention Center
Philadelphia
Architect: *Thompson, Ventulett, Stainback & Associates, with associate architect/architect of record Vitetta and consulting architect Kelly/Maiello.*

This major convention facility, located a block from city hall, covers four formerly derelict city blocks and also occupies the former Reading Terminal Train Shed, built in 1893.

"GENEROUS DOORS AND WINDOWS AND BRICK-AND-CONCRETE-CLAD STRUCTURAL BAYS CREATE A SCALE SYMPATHETIC TO ITS CONTEXT."

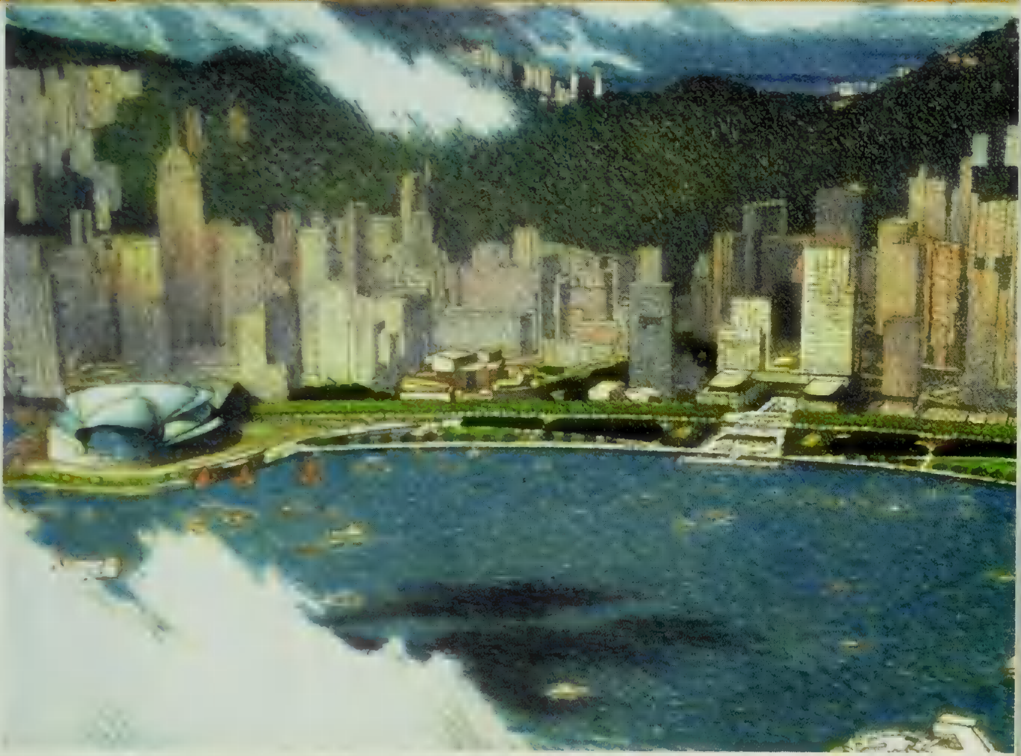
Windsor Town Centre
Vero Beach, Florida
Architect: *Merrill and Pastor Architects*

This project melds architecture, landscape, and infrastructure to create a new complex featuring a post office, a small store, a modest office component, a number of apartments, and a fitness center.

“THE BUILDINGS ARE BEAUTIFULLY PROPORTIONED, DETAILED, AND ASSEMBLED, RESULTING IN A PROJECT IN WHICH THE WHOLE EXCEEDS THE SUM OF ITS PARTS.”

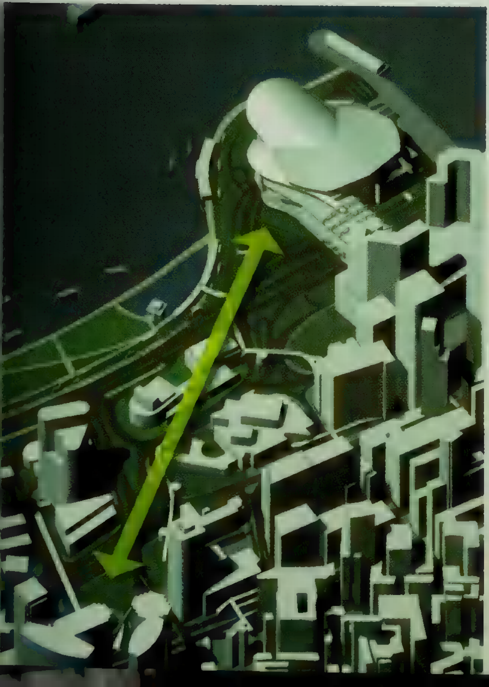
Harmonie Park/Madison Avenue Development Project
Detroit
Architect: *Schervish Vogel Consulting Architects*

The $40 million, phase-one program for renovations and new buildings in this downtown district included arts-related retail and restaurants, residential and commercial loft space in existing buildings, a renovated hotel, and new office and residential development.

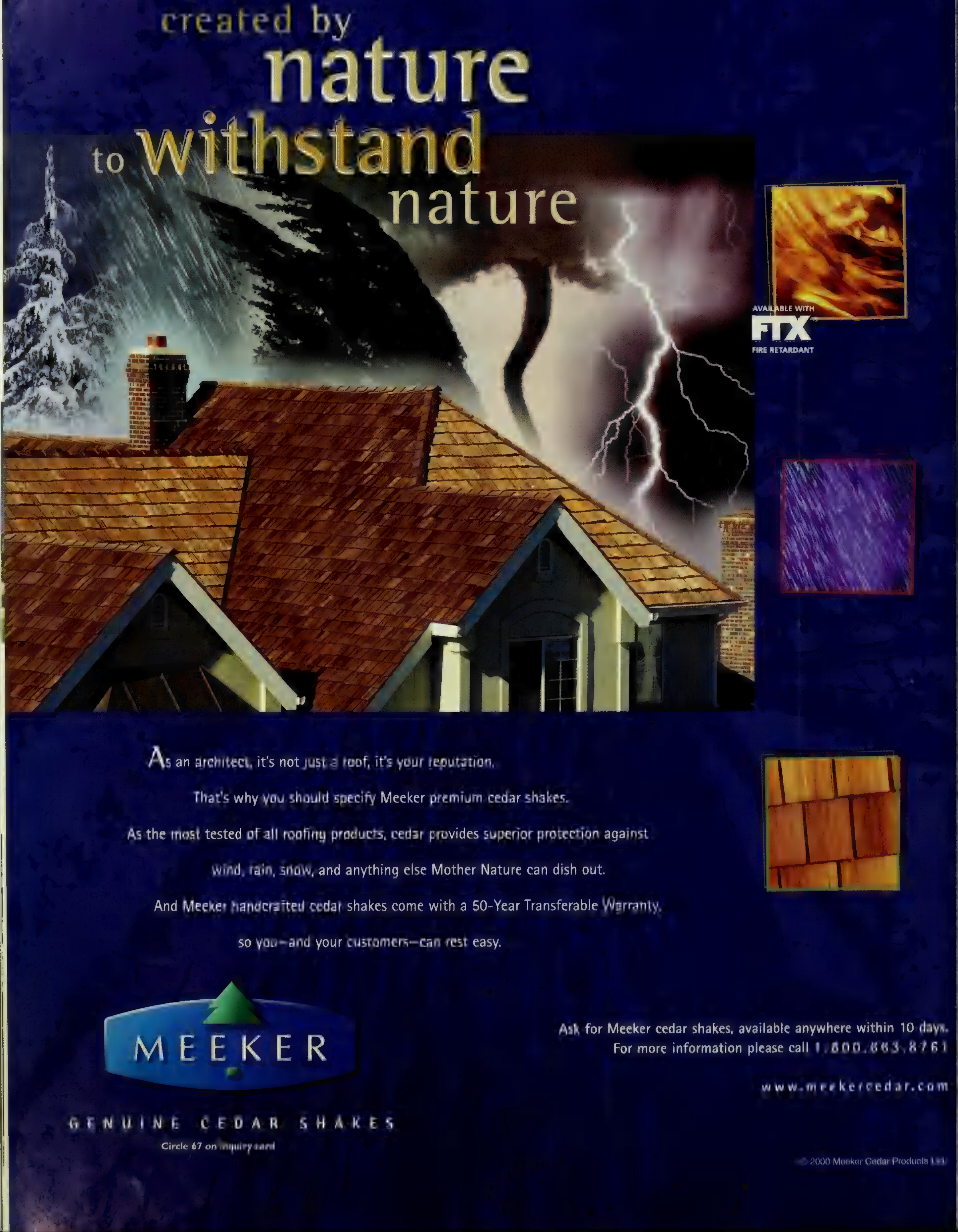


Hong Kong Central Waterfront Development Plan
Hong Kong
Architect: *Skidmore, Owings & Merrill International*

This master plan, the result of a private organization filing a formal objection to the Hong Kong government's plans for the waterfront, enhances civic, recreational, art, and cultural activity around a crescent park and boulevard [February 1999, page 54].



“THIS REVERSAL OF EGREGIOUS WATERFRONT LANDFILL AND DEVELOPMENT WOULD REPRESENT A MAJOR PUBLIC POLICY TRIUMPH.”



created by nature to withstand nature

As an architect, it's not just a roof, it's your reputation.

That's why you should specify Meeker premium cedar shakes.

As the most tested of all roofing products, cedar provides superior protection against wind, rain, snow, and anything else Mother Nature can dish out.

And Meeker handcrafted cedar shakes come with a 50-Year Transferable Warranty, so you—and your customers—can rest easy.

GENUINE CEDAR SHAKES

Circle 67 on inquiry card

Ask for Meeker cedar shakes, available anywhere within 10 days.
For more information please call 1.800.663.8761

www.meekercedar.com

© 2000 Meeker Cedar Products Ltd.

The Village of Park DuValle
Louisville
Architect: *Urban Design Associates, with LaQuatra Bonci & Associates Landscape Architecture; Stull & Lee; William Rawn Associates Architects; Tucker & Booker; and Sabak, Wilson & Lingo*

In this HOPE VI project, the Housing Authority of Louisville aimed to transform derelict public housing into mixed-income neighborhoods with rental and homeownership opportunities for a wide range of income groups.

"INNOVATIVE DRAWINGS EFFECTIVELY DEPICT A REGIONAL SCALE OF CONCERNS NORMALLY DIFFICULT TO ADDRESS BY WORDS ALONE."

Eastward Ho: A Regional Vision for Southeast Florida
Dade, Broward, Palm Beach, Martin, and Stuart counties in Florida
Architect: *Daniel Williams, FAIA (former director of the Education and Research Center at the University of Florida's College of Architecture)*

The architect implemented a plan to protect local agriculture and urban heritage, to provide sustainable sources of clean, potable water, and to develop communities that connect to renewable resources.

relax.

kaleidoscope™

Whether you're designing a transit stop or a rest sto
Kaleidoscope provides just the right amount of sha

the project: When Bal Harbour, Florida, wanted to replace its existing transit seating, the village turned to Kaleidoscope as an elegant, durable and speedy solution. Modular and pre-finished, Kaleidoscope provides a comfortable respite from the elements.

landscapeforms™
www.landscapeforms.com
1.800.430.6208

CIRCLE 68 ON INQUIRY CARD

Kaleidoscope is designed by Robert Chipman, ASLA; Brian Kane, IDSA; and Arno Yurk, A
Kaleidoscope design is patent pending. Landscape Forms supports the Landscape Archi
Foundation at the Second Century level.

Bahcesehir
Turkey
Architect: *Torti Gallas and Partners—CHK Inc., with associate architect Oner Ozyar Inas A.S*

Bahcesehir, a new satellite city west of Istanbul, is guided by the design idea that the form of cities and towns should support and nurture the qualities of civic life and community.

IN AN ERA OF ALMOST UNIVERSAL ACCEPTANCE OF AMERICAN MODELS, THIS OFFERS A MORE SUSTAINABLE MODEL. THE GROWTH PRESSURES ON GLOBAL CITIES CAN BE SHAPED INTO BEAUTIFUL, LIVABLE TOWNS."

WE'RE BUILDING CHAMPIONS.

CURTAIN WALL

Texas Motor Speedway
Yates/Cheatt/Lang

Anaheim Sports Arena / HOK Inc.

STOREFRONT

TRANSLUCENT PANELS

Jacobs Field

Lone Star Park
HKS Inc.

ENTRANCES

Champions aren't born, they're built – from the sturdiest foundation to the crowning glory.

Season after season, The Vistawall Group, consistently puts together champions.

Whether it's our curtainwall and skylights or our custom windows and doors, we've put together a line of high-performance products and services that's hard to beat.

The Vistawall Group has provided architectural products for some of the finest sports facilities in the country. We're your single source supplier: designing, engineering and manufacturing custom products for everything from ballparks to horse tracks.

The Vistawall Group. We've got the makings of a champion.

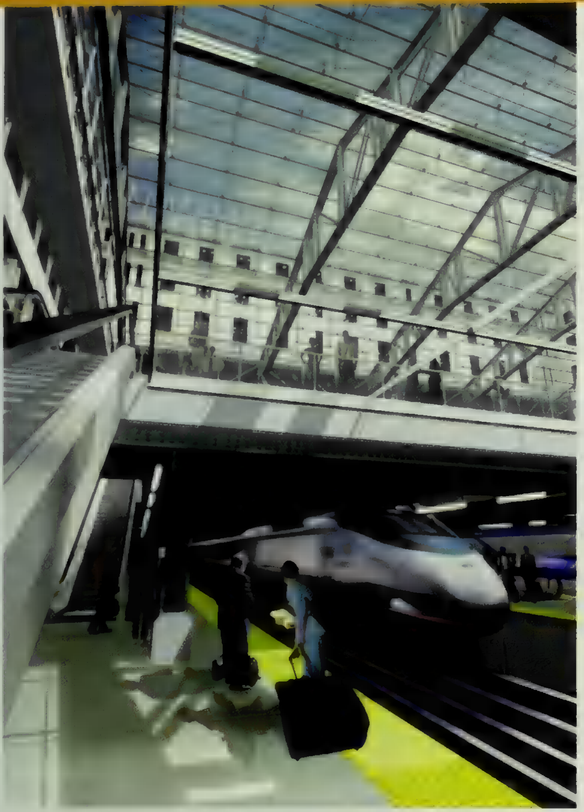
THE
VISTAWALL
GROUP
BUTLER MANUFACTURING COMPANY

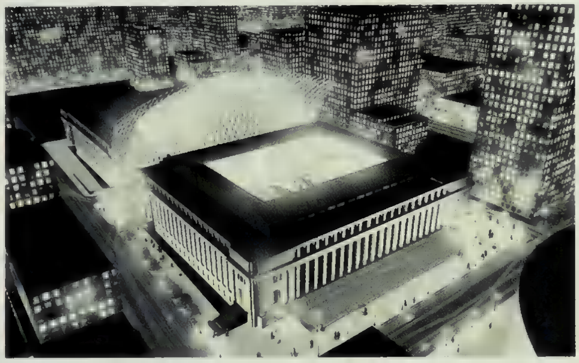
800-869-4567
fax: (972) 551-6264
http:\\www.vistawall.c

CIRCLE 69 ON INQUIRY CA

THE VISTAWALL GROUP
BUTLER MANUFACTURING COMPANY

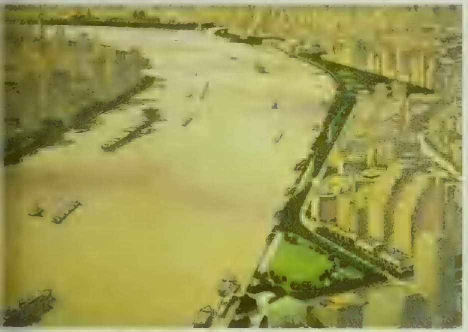
VISTAWALL ARCHITECTURAL PRODUCTS MODULINE WINDOW SYSTEMS NATURALITE SKYLIGHT SYSTEMS SKYWALL TRANSLUCENT SYSTEMS



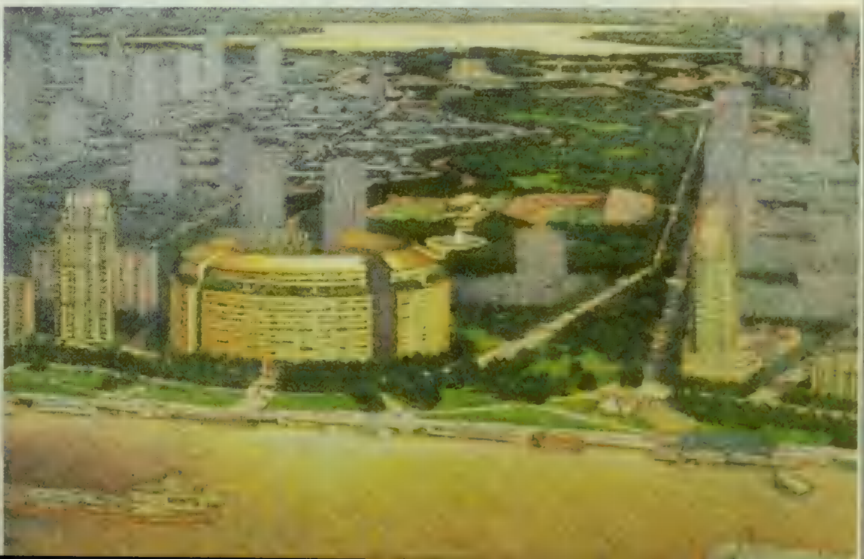


Pennsylvania Station Redevelopment Project
New York City
Architect: *Skidmore, Owings & Merrill, New York*

Penn Station's revamping will restore a certain grandeur missing since the 1963 demolition of the original Penn Station. The new station will be created via the reuse of a McKim, Mead & White-designed post office building one block west.



> "THIS PROJECT RECOGNIZES THE NEED FOR CIVIC ORDER, PUBLIC SPACES, AND CONNECTION TO THE ENVIRONMENT."



Shanghai Waterfront Redevelopment Master Plan
Shanghai, China
Architect: *Skidmore, Owings & Merrill, San Francisco*

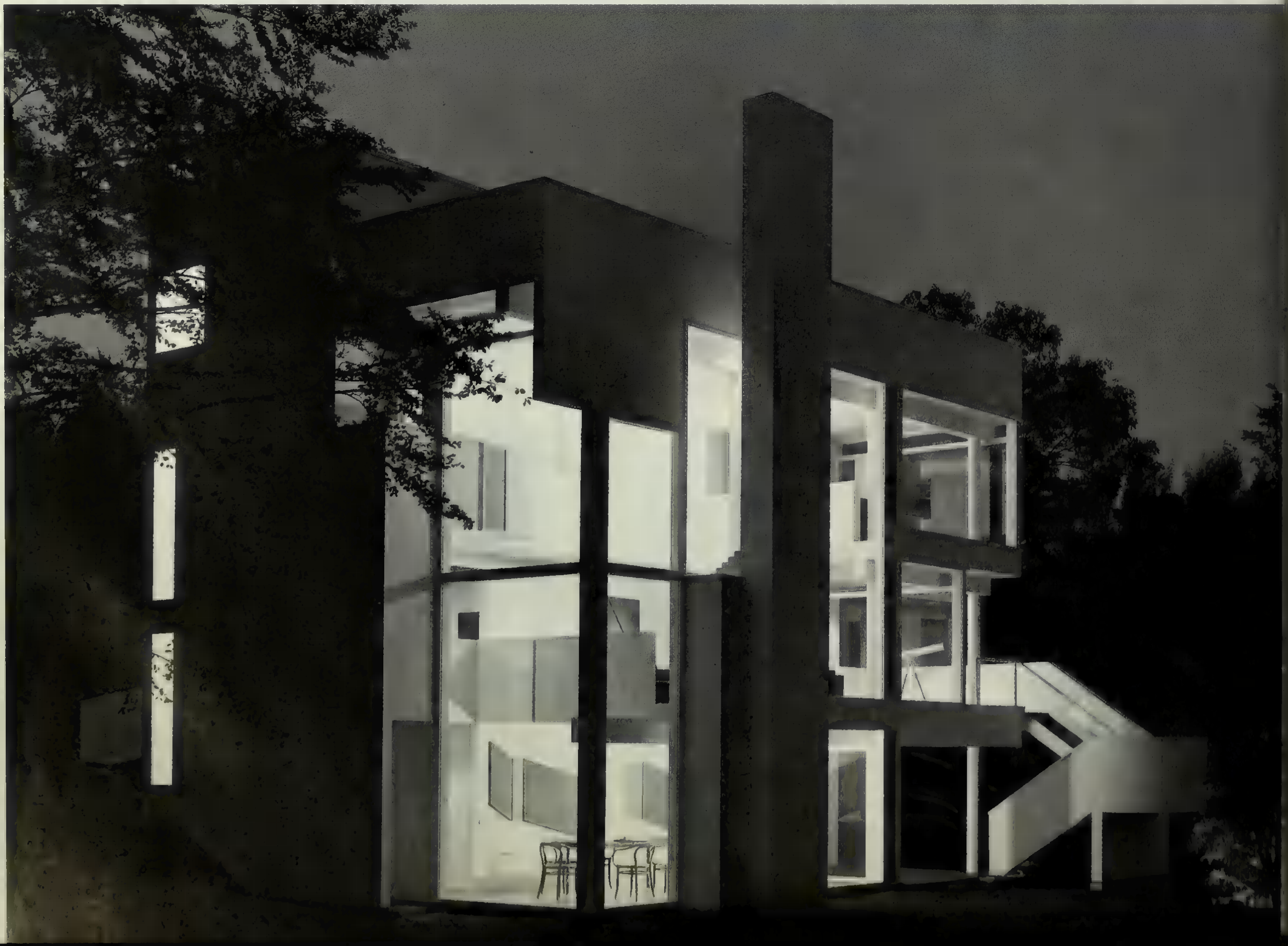
To accommodate rapid growth, the city is transforming the Port of Shanghai from a shipping channel into a place for business, tourism, housing, and recreation.

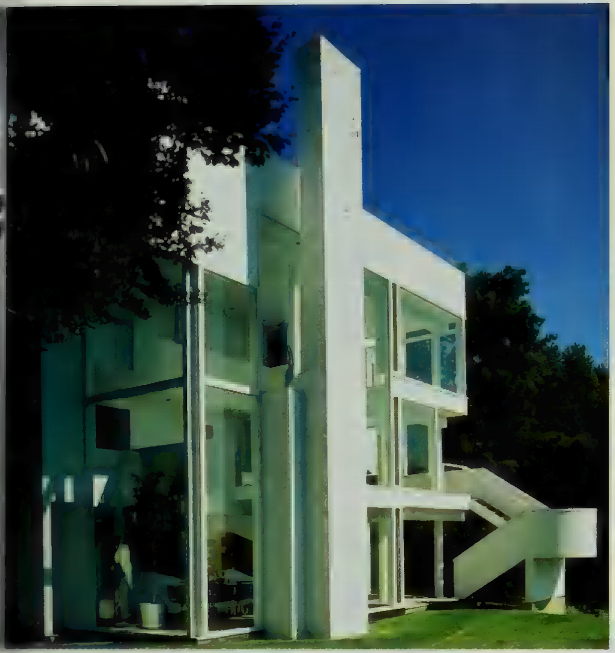
The Simplicity of SMITH HOUSE Stays Fresh Through the Decades

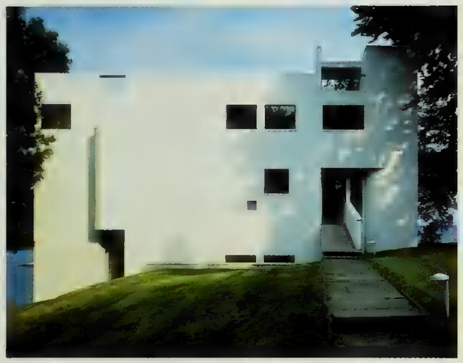
When Smith House by Richard Meier, FAIA, was featured in RECORD HOUSES in 1968, the magazine declared that the "forceful, direct expression of the plan organization and of the zoning of activities gives this house a freshly handsome, totally unstereotyped character."

What was strikingly modern then is strikingly modern today. This year's AIA honors jury found the house to have retained its clarity and beauty through the ensuing years and bestowed its 25 Year Award on Meier's design, calling it "an artistic achievement of singular power, which contributed to a significant stream of architectural design."

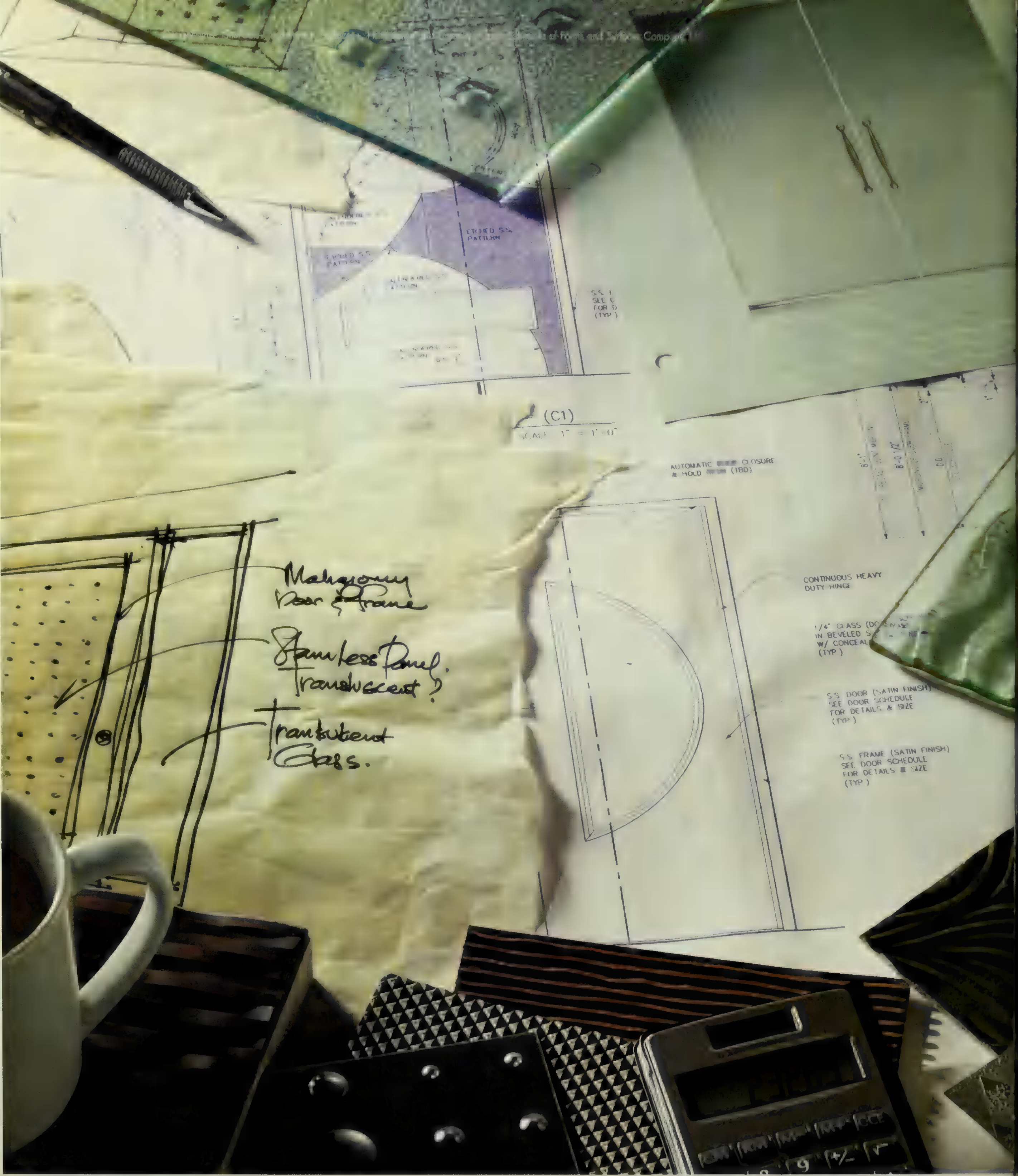
Smith House nestles on a coastal site in Darien, Conn., where Meier created a structure that hinges on a separation between public and private areas. While not large by today's standards, the crisp, white exterior, extensive glass, and spatial relationships make it appear larger. Its influence is undeniable, visible on Long Island Sound and well beyond.







The opaque, private side of the house faces the woods and the road; the public spaces, enclosed in glass, overlook the water.



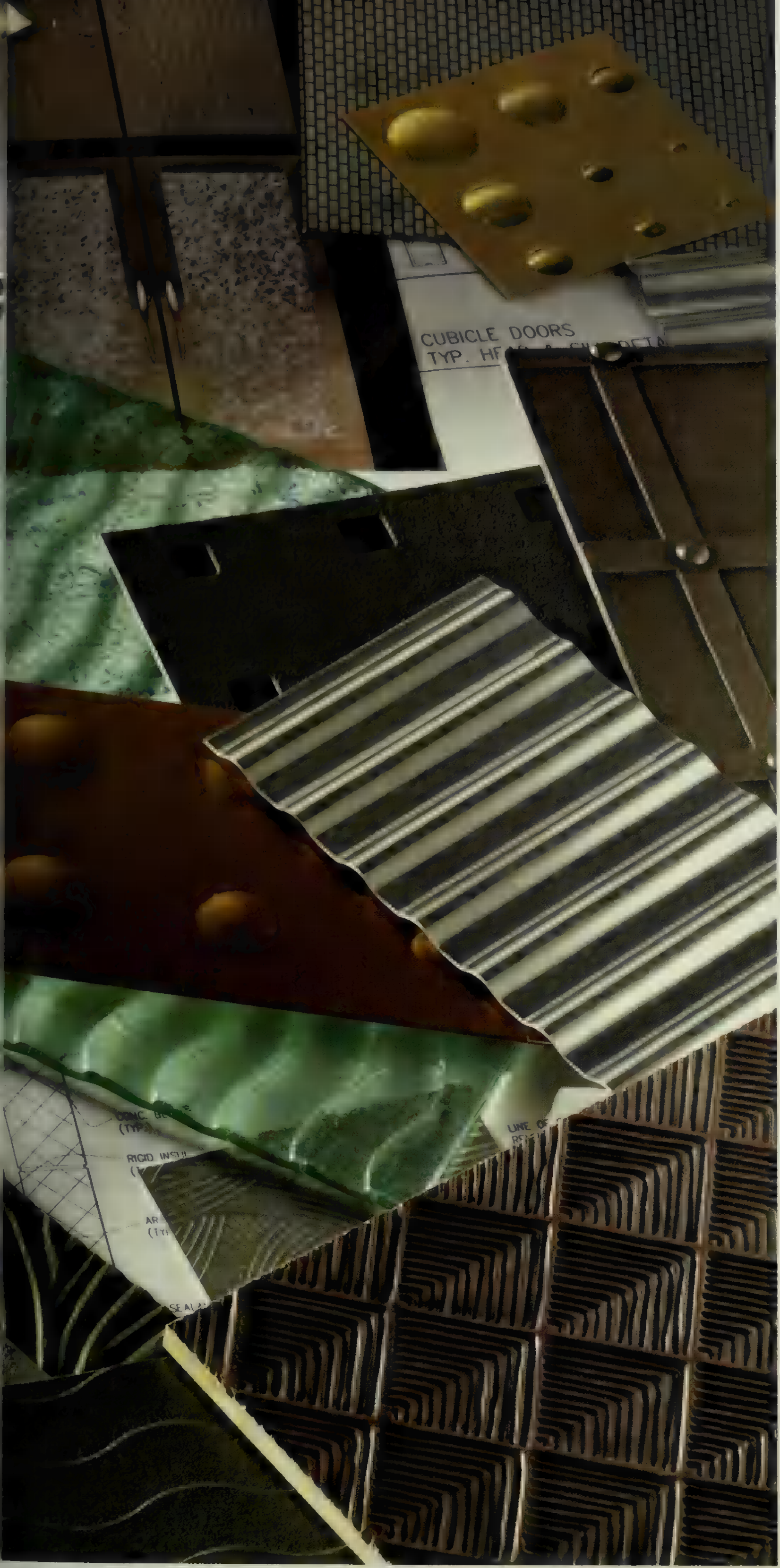
Forms+Surfaces

Six diverse manufacturing and design resources.
Unlimited possibilities.

► DESIGNFORM+
tel 877.525.5566
fax 805.684.7757

► SITEFORM+
tel 877.929.0011
fax 805.684.7757

► LIGHTFORM+
tel 877.828.0
fax 805.684.



We're living in a materials world.

And at Surfaces+, we search the world over to bring you an incredible palette of architectural surfacing materials.

As a Forms + Surfaces company, we're part of a unique global resource development network. And, part of a whole family of companies offering a breathtaking range of complementary products from the world's most talented designers and artisans.

We invite you to explore our world. Discover how our specialized materials and custom capabilities can close the distance between your budget and your dreams.

We offer all the options you see here, and more. For doors, walls, columns, elevator cabs, architectural accents, an expressive collection of materials, textures, patterns and finishes.

Best of all, you won't have to go to the ends of the earth to get them. Just call 877.626.7788 or visit us at www.forms-surfaces.com.

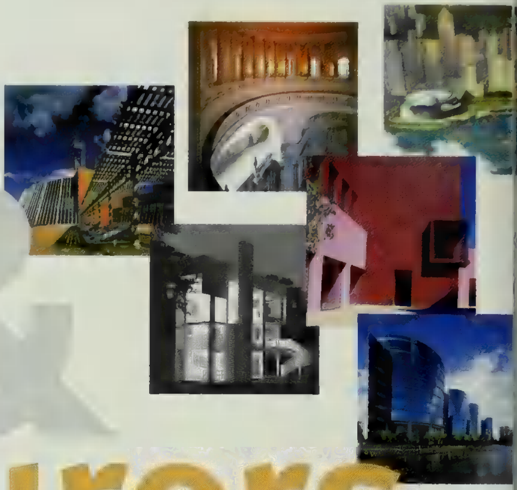
Surfaces+
A FORMS+SURFACES® COMPANY

RFACES+
l 877.626.7788
x 805.684.8620

➤ HARDWARE+
tel 877.323.3344
fax 805.684.8620

➤ CORNELIUS+
tel 800.553.7722
fax 412.781.7840

Winners & Jurors



Architecture
(page 94)
Kaufmann House Restoration, Marmol and Radziner Architects; *Neugebauer House* and *The Getty Center,* Richard Meier & Partners; *Olympia Fields Park and Community Center* and *Women's Memorial and Education Center,* Weiss/Manfredi Architects; *Massachusetts Museum of Contemporary Art,* Bruner/Cott & Associates; *Methow Valley Cabin,* James Cutler Architects; *The Hill County Jacal,* Lake/Flato Architects; *Le Fresnoy National Studio for Contemporary Arts,* Bernard Tschumi Architects; *U.S. Port of Entry/Point Roberts,* The Miller/Hull Partnership; *Mashantucket Pequot Museum and Research Center,* Polshek Partnership Architects; *Desert housing for low-income seniors,* Studio E Architects; *Center Street Park and Ride,* Herbert Lewis Kruse Blunck Architecture; *Grand Central Terminal,* Beyer Blinder Belle Architects & Planners LLP; *Kuala Lumpur City Centre, Phase I,* Cesar Pelli & Associates

Interiors *(page 110)*
San Francisco City Hall Improvement Project, Heller-Manus Architects with Komorous-Towey Architects/Finger & Moy Architects; *SHR Perceptual Management workspace,* Morphosis Architects; *Helmut Lang retail boutique,* Gluckman Mayner Architects; *Long Meadow Ranch Winery,* Turnbull Griffin Haesloop; *Farnsworth House,* Lohan Associates; *Seiji Ozawa Hall at Tanglewood,* William Rawn Associates, Architects; *St. Jean Vianney Catholic Church Sanctuary,* Trahan Architects APAC; *Iwataya Passage,* WalkerGroup/CNI; *Colleen B. Rosenblat Jewelry Showroom and Office,* Gabellini Associates; *Fifth Avenue duplex* and *ocean liner dining room and lounge,* Shelton, Mindel & Associates Architects; *The offices of Greenwell Goetz Architects,* Greenwell Goetz Architects; *Ackerman McQueen Advertising executive offices and video conferencing,* Elliott + Associates Architects

Regional and Urban Design
(page 124)
Windsor Town Centre, Merrill and Pastor Architects; *Harmonie Park/Madison Avenue Development Project,* Schervish Vogel Consulting Architects; *The Village of Park DuValle,* Urban Design Associates, with LaQuatra Bonci & Associates Landscape Architecture, Stull & Lee, William Rawn Associates Architects, Tucker & Booker, and Sabak, Wilson & Lingo; *Hong Kong Central waterfront development plan* and *Shanghai Waterfront redevelopment masterplan,* Skidmore, Owings & Merrill LLP, San Francisco; *Pennsylvania Station Redevelopment Project,* Skidmore, Owings & Merrill LLP, New York City; *Pennsylvania Convention Center,* Thompson, Ventulett, Stainback & Associates, with Vitetta and Kelly/Maiello; *Eastward Ho: A Regional Vision for Southeast Florida,* Daniel Williams, FAIA; *Mid-Embarcadero Open Space/Ferry Terminal,* ROMA Design Group; *Bahcesehir, Turkey,* Torti Gallas and Partners-CHK, with Oner Ozyar Inas A.S.

25-Year Award *(page 134)*
Smith House, Richard Meier, FAIA

Gold Medal *(page 145)*
Ricardo Legorreta, HON. FAIA

Firm Award *(page 166)*
Gensler

Architecture/25-Year Award
Robert Kliment, FAIA (chair), New York; Thomas Bosworth, FAIA, Seattle; Andrea Clark Brown, AIA, Naples, Fla.; Raymond H. Dehn, ASSOC. AIA, Minneapolis; Daniel Gregory, *Sunset Magazine,* Menlo Park, Calif.; Gerald Horn, FAIA, Chicago; Tracey Hunte, Washington, D.C.; M. David Lee, FAIA, Boston; Elizabeth Corbin Murphy, AIA, Medina, Ohio

Interiors
Neil Frankel, AIA (chair), Chicago; Richard Pollack, AIA, San Francisco; Ronnette Riley, FAIA, New York; Susan Szenasy, *Metropolis Magazine,* New York; Jane Weinzapfel, FAIA, Boston

Regional and Urban Design
Douglas S. Kelbaugh, FAIA (chair), Ann Arbor, Mich.; Lance Brown, AIA, New York; Elizabeth Plater-Zyberk, FAIA, Miami; Mayor M. Susan Savage, Tulsa; Daniel Solomon, FAIA, San Francisco

Firm Award/Gold Medal
AIA Board of Directors: Ronald L. Skaggs, FAIA; John D. Anderson, FAIA; David S. Collins, FAIA; Harry Rutledge AIA, RIBA; Gordon H. Chong, FAIA; J. Richard Kremer, AIA; Linda Searl, FAIA; Melissa Mileff; Roy L. Abernathy ASSOC. AIA; Timothy D. Kent; Stephan Castellanos, FAIA; Donald M. Comstock, AIA; Robert L. Newsom, FAIA; Steven Winkel, FAIA; Timothy G. Cahill, AIA; Katherine L. Schwennsen AIA; Larry M. Schneider, AIA; Angel C. Saqui, FAIA; Lugean L. Chilcote, FAIA; David L. Wooley, AIA; Holly K. Gerberding, AIA; Lawrence R. Livergood, AIA; Eugene Hopkins, FAIA; Harold L. Adams, FAIA, RIBA, JIA; John F. Corkill, Jr., AIA; Derek Bradford, AIA; John P. Franzen, AIA; James Gatsch, AIA; John Reid Benson, AIA; Barbara A. Nadel, AIA; Edward Kodet Jr., FAIA; Ward Whitwam, AIA; Bruce E. Blackmer, AIA; Kenneth Maynard, FAIA; Thomas G. Fernandez, AIA; Douglas L. Steidl, FAIA; Michael L. Prifti, AIA; Jerry E. Abramson; Richard Farson; Ben R. Darmer, FAIA; Thompson E. Penney, FAIA; David Messersmith, FAIA; Bill D. Smith, FAIA; Richard L. Ford, Jr., AIA Wayne D. Silberschlag, AIA; Marvin J. Sparn, FAIA

STANDARD
VERSIONS

ırcus Overhead
ypically suspended
ı ceilings; may also
ounted from floors or
lls. Has information
ls one or both sides.

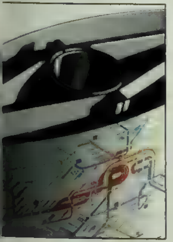
Arcus Mast
le-mounted modules
nay be fixed in any
rientation. Ideal for
itions where one or
types of information
ds to be conveyed.

Arcus Totem
The quintessential
version of the Arcus
system. Mounted
'ically, with informa-
ı panels both sides.

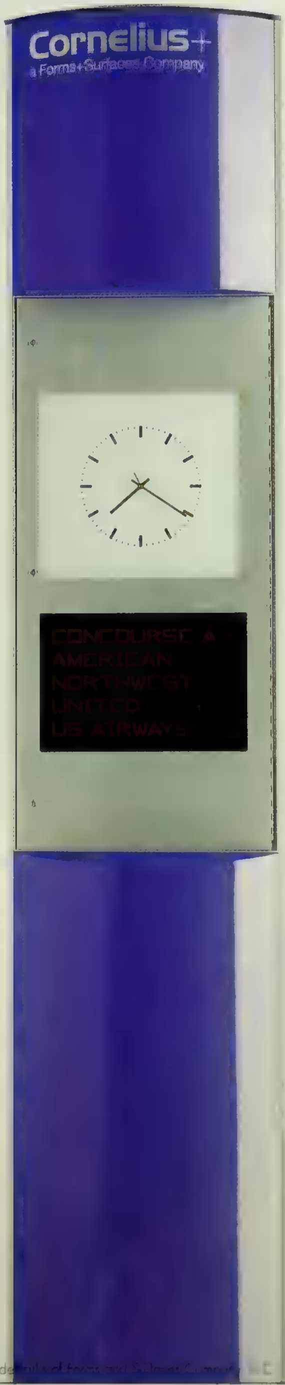
Arcus Electronic
A highly specialized
version of the Arcus
ı designed to house
onic displays, clocks,
nteractive media, or
other devices.

Arcus Plaque
e smallest version of
s. Typically used as
ntification on doors
djacent to doorways.

Arcus Wall
In conjunction with
us Plaque, part of a
nprehensive offering
for vertical surface
applications.



Our new information system is a born leader.



Sure to attract a following, Arcus™ is a fully integrated information system with an amazing range of functionality and application. It's a system ideally suited to interior and exterior environments—transportation centers, streetscapes, educational and corporate campuses, theme parks, malls, stadiums and health care facilities—where people need to get information quickly.

Arcus is perfect for directional and schedule information, as well as advertising, lighting and multi-media displays. The system's patented modular design, plus numerous finish and graphic options, allows elements to be sized and combined in countless configurations. The result: custom versatility at a moderate price.

Versatile. Efficient. Refined. From small door plaques to towering totems, Arcus stands ready to lead the way through today's fast-paced world.

Cornelius+
A FORMS+SURFACES® COMPANY

tel 800.553.7722 fax 412.781.7840

www.forms-surfaces.com

DesignForm+, SiteForm+, LightForm+, Surfaces+, Hardware+ and Cornelius+ are trademarks of Forms and Surfaces Company LLC

Forms+Surfaces®

➤ DESIGNFORM+ ➤ SITEFORM+ ➤ LIGHTFORM+ ➤ SURFACES+ ➤ HARDWARE+ ➤ CORNELIUS+

LIMITED *FLOORING*

CHOICES

CAN MAKE YOUR DESIGN

FALL FLAT

ON ITS FACE.

How can you take your design to the next step if you're confined to one company's limited choices? To see a concept through to completion requires a contractor who isn't restricted by manufacturer alliances and who has the selection and experience to fulfill your design. That combination perfectly describes your local, independent StarNet flooring contractor. Independent means an unrestricted selection of products. Local means a single contractor who's on site and personally committed to meeting your needs and deadlines. So if you want to rise to the occasion without stumbling, we'll be there for you every step of the way. To reach your local StarNet member call 1-800-787-6381.

STARNET.

INDEPENDENT FLOORING COOPERATIVE

www.starnetflooring.com

1-800-787-6381

Alabama

Terry Fry Flooring
Birmingham, (205) 870-4334

Arizona

Sun Country Floors, Inc.
Mesa, (480) 497-5011

California

B.T. Mancini Co., Inc.
Milpitas, (408) 942-7900
Sacramento, (916) 381-3660
Floor Center
Salinas, (831) 424-2916
San Luis Obispo, (805) 544-0324
Floorcovering Consultants Grp.
Culver City, (310) 559-2588
Oceanside, (760) 758-4188
Harry L. Murphy, Inc.
San Jose, (408) 955-1100
Hoem-Schurba & Associates
S. San Francisco, (650) 871-5194
Howard's Rug Co. of San Diego
San Diego, (858) 558-3939
Majestic Floors, Inc.
Concord, (925) 825-0771
Universal Flooring Systems, Inc.
Huntington Beach, (714) 373-1136
Wallach's Commercial Flooring
Irvine, (949) 859-1009

Colorado

Evans & Company, Inc.
Denver, (303) 573-4928

Connecticut

BKM Floorcovering
East Hartford, (860) 528-9981
Milford, (203) 874-7754
Commercial Flooring Concepts, Inc.
Windsor, (860) 683-0673
R.D. Weis & Companies
S. Windsor, (860)528-9637

Delaware

Pala Tile & Carpet Contractors
Elsmere, (302) 652-4500

Florida

Dixie Contract Carpet, Inc.
Jacksonville, (904) 296-0023
Jones Floor Covering, Inc.
Pensacola, (850) 476-1995
Spraggins Contract Interiors
Orlando, (407) 295-4150

Georgia

Bonitz Flooring Group, Inc.
Atlanta, (770) 952-4093
Southeastern Comm. Flrg., Inc.
Woodstock, (770) 591-9980

Hawaii

Island Flooring Co., Inc.
Honolulu, (808) 847-6577

Idaho

Wall 2 Wall Commercial Flrg.
Boise, (208) 376-0136
Idaho Falls, (208) 523-5490
Sun Valley, (208) 726-0791
Pocatello, (208) 232-4226

Illinois

Commercial Carpet Consultants
Des Plaines, (847) 298-9570
Mt. Prospect, (847) 640-8060
Mr. David's Carpet Service, Ltd.
Carol Stream, (630) 260-9400

Indiana

Certified Floorcovering Svs.
Indianapolis, (317) 872-7926
Interior Finishes, Inc.
Osceola, (219) 674-9975
Strahm Group, Inc.
Fort Wayne, (219) 489-2537

Iowa

Commercial Flooring Company
Dubuque, (319) 582-4976

Kansas

Artistic Floorcovering, Inc.
Lenexa, (913) 317-8623
CAP Carpet, Inc.
Topeka, (785) 273-1402
Wichita, (316) 262-3491
Interior Surface Company, Inc.
Olathe, (913) 397-8100

Louisiana

B&J Floor Service, Inc.
Shreveport, (318) 671-1570
Craft-Croswell Contract
Harahan, (504) 734-1519
Royerre Commercial Carpets
Metairie, (504) 833-6331

Maine

Paul G. White Tile Co., Inc.
Portland, (207) 797-4657

Maryland

Apartment & Business Flrg. Sys.
Baltimore, (410) 485-6790
Carpet Fair, Inc.
Baltimore, (410) 265-6633
CB Flooring
Columbia, (410) 381-5400
Frederick, (301) 662-6168
Suburban Floorcoverings
Landover, (301) 773-1600

Massachusetts

Allegheny Contract Flooring, Inc.
Woburn, (781) 935-1077
Business Interiors Flrcvg., Inc.
Woburn, (781) 938-9994
Mousseau Contract Flooring
So. Attleboro, (508) 761-8870
R.D. Weis & Co., Inc.
Allston, (617) 787-1009

Michigan

Central Tile & Terrazzo Co., Inc.
Kalamazoo, (616) 375-1660
Floor Craft Floor Covering, Inc.
Clinton Township, (810) 468-9900

Minnesota

Multiple Concepts Interiors
Brooklyn Park, (612) 537-5006
Waite Park, (320) 253-5078
St. Paul Linoleum & Carpet Co.
Eagan, (651) 686-7770

Mississippi

Craft-Croswell Contract
Hattiesburg, (601) 296-1827
Ridgeland, (601) 856-8861

Missouri

William J. Zickel Co., Inc.
Fenton, (314) 343-8663
North Kansas City, (816) 471-5100
Springfield, (417) 831-3521

Montana

Pierce Flooring & Design Ctr.
Billings, (406) 652-4666
Bozeman, (406) 587-5428
Butte, (406) 494-3313
Great Falls, (406) 727-3832
Missoula, (406) 543-8224

Nebraska

Commercial Flooring Systems, Inc.
Omaha, (402) 592-4383

Nevada

B.T. Mancini Co., Inc.
Sparks, (775) 359-3007

New Hampshire

A&E Flooring, Inc.
Hookset, (603) 625-1266
Merrimac Tile Co., Inc
Derry, (603) 432-2544
Paul G. White Tile Co., Inc.
New Market, (603) 659-3233

New Jersey

Flooring Technologies, Inc.
Whippany, (973) 386-1600
The Gillespie Group, Inc.
North Brunswick, (732) 940-7777
M.E. Sabosik Associates, Inc.
Pt. Pleasant, (732) 892-2800
Metropolitan Contract Carpets
Cherry Hill, (856) 795-1177

New Mexico

Business Environments
Albuquerque, (505) 888-4400

New York

Associated/ACC International Ltd.
New York City, (212) 633-0250
Commercial Floors Beautiful
White Plains, (914) 949-1400
Fraser/Gold Carpet Corp.
New York City, (212) 751-3455
Lane's Floor Coverings & Interiors
New York City, (212) 532-5200
New York Carpet Corp.
New York City, (212) 736-1132
R.D. Weis Companies
Port Chester, (914) 937-9337
Victor (Rochester), (716) 924-0320
The Sposato Companies
Liverpool, (315) 422-1489

North Carolina

Bonitz Flooring Group, Inc.
Charlotte, (704) 598-0094
Greensboro, (336) 996-9900
Raleigh, (919) 380-0084
Burton Floorcovering, Inc.
Pineville, (704) 583-0005
E.E. Wilson Floor Covering, Inc.
Lexington, (336) 357-5555

Ohio

OCP Contractors, Inc.
Holland, (419) 865-7168

Oregon

Fashion Floors
Medford, (541) 779-0996
Rubenstein's Contract Carpet
Eugene, (541) 484-1101
Portland, (503) 224-1007

Pennsylvania

CTS Flooring
Limerick, (610) 489-6270
Facility Services Group, Inc.
Conshohocken, (610) 940-4370
Owen M. Bastian, Inc.
Allentown, (610) 798-9910
Trexlertown, (610) 798-9910
Sliwinski Flrcvg Group, Inc.
Huntingdon Valley, (215) 364-9661

Rhode Island

Ruggieri Flooring, Inc.
Cranston, (401) 942-1700

South Carolina

Bonitz Flooring Group, Inc.
Charleston, (843) 556-2840
Columbia, (803) 799-0181
Greenville, (864) 288-3771
N. Augusta, (803) 279-6411

Texas

Corporate Care, Inc.
Houston, (713) 692-6300
Flooring Associates
Fort Worth, (817) 332-6977
Intertech Flooring
Austin, (512) 385-4574
San Antonio, (210) 650-9670
RWA Flooring Solutions
Bedford, (817) 858-6634
San Antonio Floor Finisher's, Inc.
San Antonio, (210) 341-7101
Texan Floor Service, Ltd.
Dallas, (214) 573-6363
Fort Worth, (817) 923-1759
Houston, (713) 956-9966
Vector Concepts, Inc.
Irving, (972) 399-1303
Fort Worth, (817) 595-7439

Utah

Wall 2 Wall Commercial Flrg.
Ogden, (801) 621-2733
Salt Lake City, (801) 288-2794

Virginia

Commercial Carpets of America
Alexandria, (703) 370-0000
Prestige Floors, Inc.
Virginia Beach, (757) 468-5600

Washington

Evergreen Commercial Flooring
Bellevue, (425) 883-8680
Rubenstein's Contract Carpet
Olympia, (360) 753-9156
Seattle, (206) 762-5610

Wisconsin

Sergenian's Floor Coverings
Beaver Dam, (920) 887-7611
Madison, (608) 273-6300

StarNet®

INDEPENDENT FLOORING COOPERATIVE

www.starnetflooring.com

1-800-787-6381

CIRCLE 70 ON INQUIRY CARD

Oh, the Design

Merrill Lynch Facility
Englewood, Colo.
Thompson, Ventulett, Stainback & Associates

Precast concrete applications in Commercial, Industrial, Housing and Specialized Structures are amazing! In 50 years, precast, prestressed concrete has become a primary building component offering extraordinary structural and architectural options. Architects now have more than 240 certified precast plan to help create tomorrow's reality from today's dreams.

Stay current with today's (and tomorrow's) precast, prestressed trends, projects and options. Register toll-free or on the web to receive regular precast concrete case studies and project and product updates. Also on our website you'll find useful information about our AIA/CES Registered Provider box lunch and oth accredited programs. To locate our PCI certified producers you'll also find a state-by-state locator on the we

Quantum Peripherals of
Colorado, Inc.
Louisville, Colo.
Oz Architecture

1-800-947-8800 · www.pci.org

Possibilities...

PRECAST/PRESTRESSED
CONCRETE INSTITUTE
209 West Jackson Boulevard
Chicago, IL 60606
E-Mail: info@pci.org

CIRCLE 71 ON INQUIRY CARD

Once there was a beautiful painting. And everyone loved it.

The artist was asked to sell it often and for large amounts of money.

It was so coveted, in fact, that people began to copy it. Soon everyone could have the painting if they wanted it. The funny thing was, though, no one wanted it anymore.

www.annsacks.com 1+800+969+521

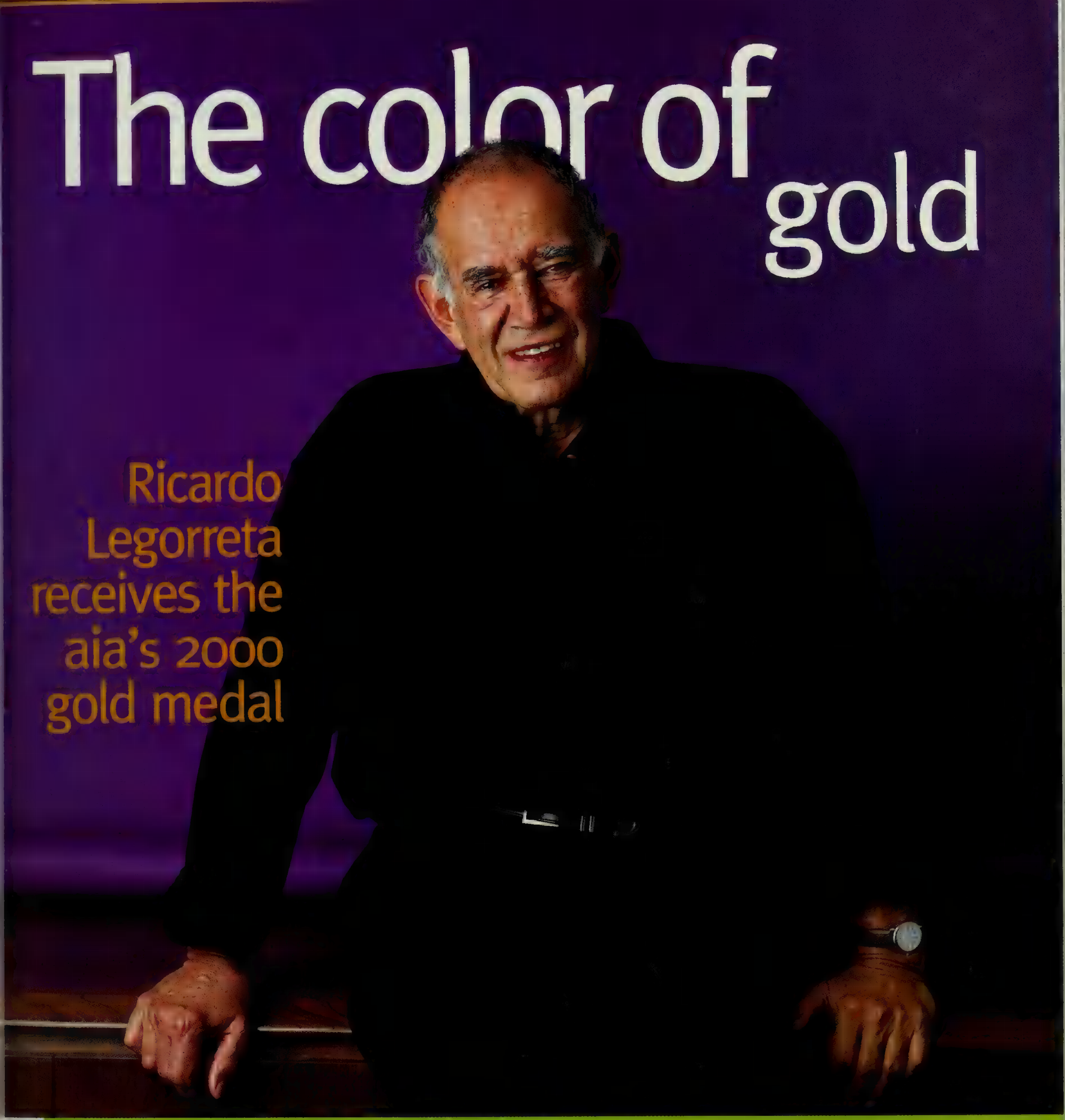
ANN SACKS

tile stone plumbing

CIRCLE 72 ON INQUIRY CARD

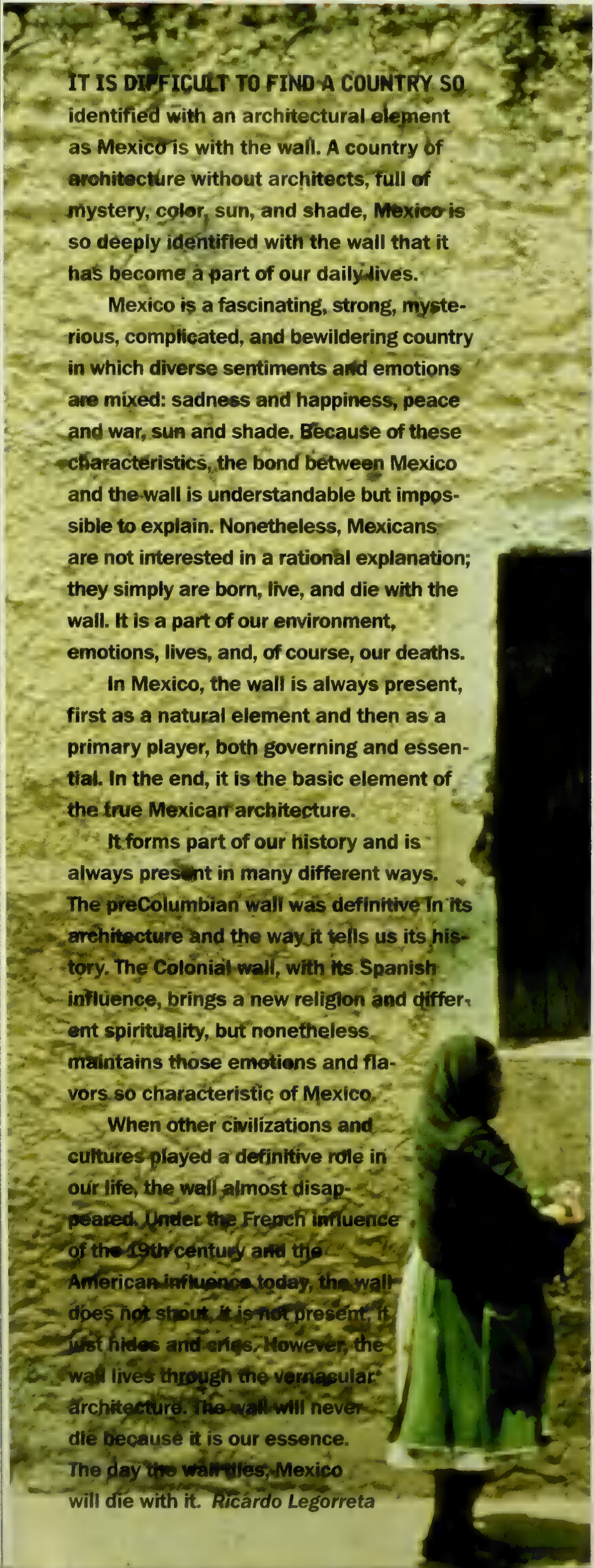
The color of gold

Ricardo Legorreta receives the aia's 2000 gold medal



The 56th winner of the AIA's highest honor, Ricardo Legorreta, Hon. FAIA, has created a body of work that is rooted in his country's timeless architecture but is increasingly international in scope. Like a warm southerly breeze, his work has moved gracefully from his native Mexico to Texas and California. Now he is building in more distant climes, such as Chicago, Hawaii, Spain, and France. The first Mexican architect to receive the Gold Medal, Legorreta is a trailblazer who understands the need to explore new ground while acknowledging his debts to the past. RECORD's coverage of this year's gold medalist begins with his short paean to an ancient influence on his work and then moves to an exclusive interview. It continues with a portfolio of three recent projects by Legorreta and ends with an analysis of his architecture by contributing editor David Dillon. Colorful, elegant, and often surprising, Legorreta and his work seem to travel well. Clifford A. Pearson

The Walls of Mexico



IT IS DIFFICULT TO FIND A COUNTRY SO identified with an architectural element as Mexico is with the wall. A country of architecture without architects, full of mystery, color, sun, and shade, Mexico is so deeply identified with the wall that it has become a part of our daily lives.

Mexico is a fascinating, strong, mysterious, complicated, and bewildering country in which diverse sentiments and emotions are mixed: sadness and happiness, peace and war, sun and shade. Because of these characteristics, the bond between Mexico and the wall is understandable but impossible to explain. Nonetheless, Mexicans are not interested in a rational explanation; they simply are born, live, and die with the wall. It is a part of our environment, emotions, lives, and, of course, our deaths.

In Mexico, the wall is always present, first as a natural element and then as a primary player, both governing and essential. In the end, it is the basic element of the true Mexican architecture.

It forms part of our history and is always present in many different ways. The preColumbian wall was definitive in its architecture and the way it tells us its history. The Colonial wall, with its Spanish influence, brings a new religion and different spirituality, but nonetheless maintains those emotions and flavors so characteristic of Mexico.

When other civilizations and cultures played a definitive role in our life, the wall almost disappeared. Under the French influence of the 19th century and the American influence today, the wall does not shout, it is not present, it just hides and cries. However, the wall lives through the vernacular architecture. The wall will never die because it is our essence. The day the wall dies, Mexico will die with it. *Ricardo Legorreta*

...on the Record

Earlier this year, Ricardo Legorreta visited with editor-in-chief Robert Ivy and senior editor Clifford Pearson at RECORD*'s New York offices. What follows is part of that conversation:*

AR: *What does winning the Gold Medal mean to you?*

RL: It's a very special thing. On the one hand, I am very proud and understand, of course, that it means a responsibility too. But it was also a tremendous surprise. I never expected it. I was in Washington about two months before the announcement and was at the AIA headquarters for a jury. I passed the wall with all the winners' names engraved on it and never thought mine would be added to it. I was very happy, not just for me, but for Mexico. It means a lot for Mexican architects. I think this demonstrates that the U.S. is open.

AR: *Do you think winning the Gold Medal will have an impact on how clients deal with you?*

RL: I think it will, not just with clients but with the public. We have a saying in Mexico, "No one is a prophet in his own land." So the medal helps with that. I don't mean that now everybody will let me just do whatever I want. No, I'm talking about a positive attitude . . . And I think that this recognition is helpful, really, for that. But you have to be careful. These recognitions are all very beautiful, but they are not the objective.

Lego

AR: *You've had an unusual array of clients—from universities and large corporations to wealthy individuals and public institutions. How have you been able to work with all these clients and make memorable architecture?*

RL: The first thing I do is to really get the clients involved in the project. Truly involved. Not the way we sometimes say, "Yes, we got them involved. We got the community involved." And then do whatever we want. No, I always develop a relationship with the client. Very often, especially on homes, the clients end up as personal friends. Even with institutional clients, such as Chiron [Corporation in Emeryville, Calif.], I ended up very good

WWW *For a complete transcript go to:* ***www.architecturalrecord.com***

nds with the two top people. Very often I am told or I have the feeling t I am a little weak with clients, if you want to call it that—that I give m too much time, too much of myself. Some clients have told me after finished the building, "My God, you're really patient." But I think that is way to do it. It takes a tremendous amount of time. Maybe it comes m the fact that once I decide to do something, I want to do the best and I n't want to have any excuses.

The advantage of having so many different kinds of clients is that learn. The most difficult situations are when you are selected through a npetition or through an interview, and then the top level [for the client] appears. And you must work with another level further down [the corrate ladder] and that level doesn't trust you or they resent you because y feel you were imposed on them. They think you see yourself as the king the world. These jobs take a lot of effort because you must convert these ople who don't like you. You can't just say, "I only deal with the president the company." I don't like that. In the end, these are the people who are the rs of the building, not the president of the company. And after the build- is finished, these are the people who can maintain the building and ise it or destroy the building.

: *You have worked on several projects where you've collaborated with er architects—such as the National Center for the Arts in Mexico City larch 1996, page 78] and developments for the Reichman family in xico City that were never built. How did these collaborations work out?*

reta speaks...

: I think we have to really ake an effort to work as a am. Why? Because the future is create good cities. And one of e ways—I don't say the only y—but one of the ways to do this is present a team to a mayor, a governor, even a president and show w you can solve a problem. You cannot come and say, "I, Ricardo gorreta, will solve the problems of Mexico." So we have to learn to rk together. What is the only obstacle to working together? It's the os of the architects. We have to push those aside.

R: *Have you ever said no to a client?*

L: Yes. I think we have to start to be selective, to see if we can get along th a particular client, to see if the chemistry *(continued on page 160)*

After 45 years of practicing architecture, Ricardo Legorreta stands at the top of his profession and has good reason to smile.

College of Santa Fe Visual Arts Center and Santa Fe Art Institute

A joint effort by two separate institutions, the College of Santa Fe and the Santa Fe Art Institute, this 52,000-square-foot project resembles a Southwestern village or pueblo built around a series of courtyards. The result is a complex with a common design vocabulary that allows each of the major components enough variety to preserve its own identity.

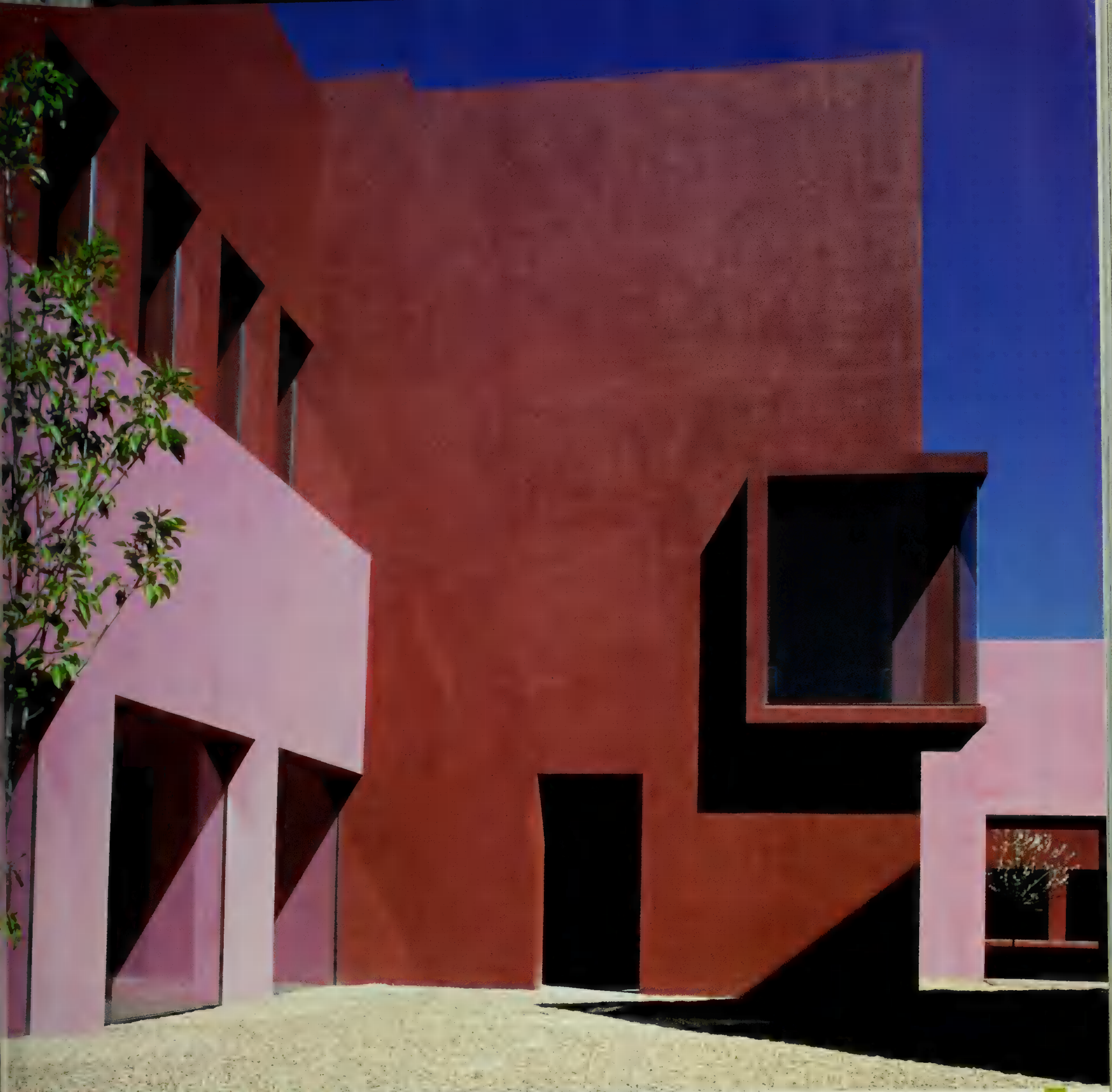
Although it is located on the college's sprawling campus outside the limits of the city's historic core, the new arts complex echoes local building traditions with its low-scale structures and earth-toned perimeter walls. Inside the courtyards and buildings, colors not indigenous to the area—such as fuchsia, purple, and lavender—assert themselves and help orient visitors.

There is a courtyard for each of the major components: the Art History Center and the Marion Center for the Photographic Arts (both part of the college) and the independent Art Institute (which provides living and studio space to a dozen participants to study with acclaimed visiting artists such as John Baldessari, Ross Bleckner, and Helen Frankenthaler). In addition, a studio and office wing is attached to the art history building and a 100-seat lecture hall is attached to the Marion Center by way of a portico.

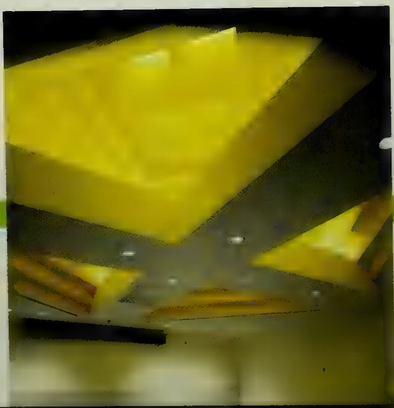
The Art History Center includes offices, study spaces, and studios wrapping around a courtyard with a two-story library that is a rectangle rotated in plan.

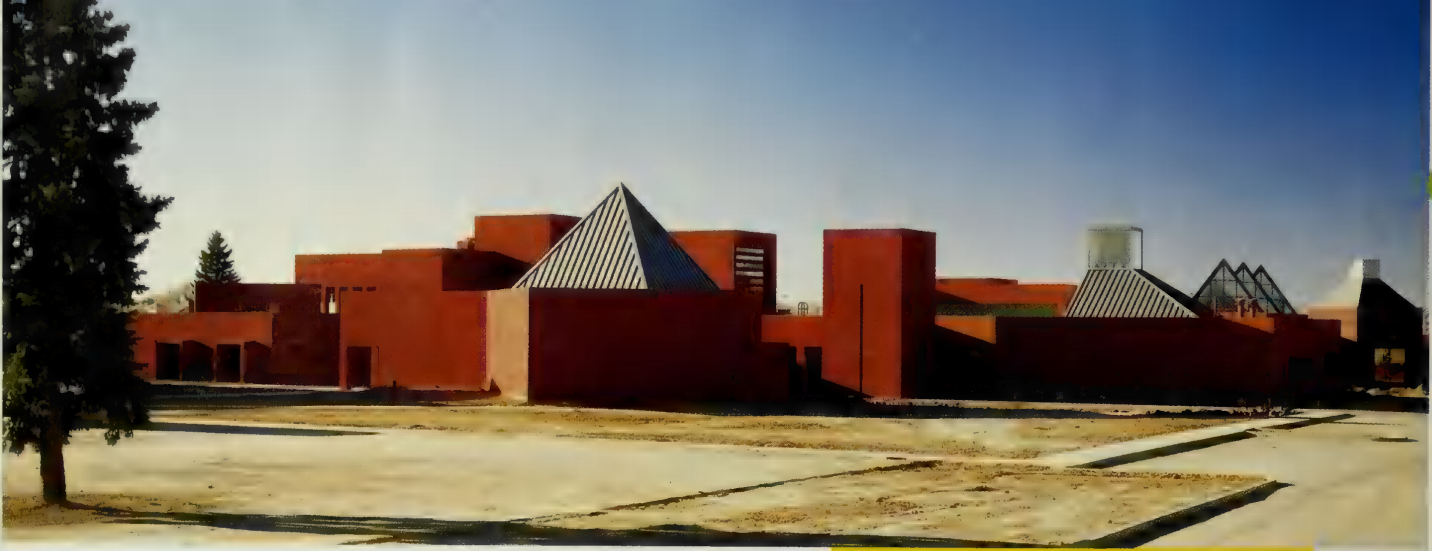
North of the art history compound is the Marion Center, which offers a rare-book collection, a daylit gallery, and sophisticated darkrooms wrapping around a 26-foot-tall atrium topped by a

(continued on page 150)



A three-sided tower marks the entry to the Art Institute (opposite top), while the art history courtyard (above) is entered through an arcade (opposite bottom). A lecture hall (right) serves the entire college.

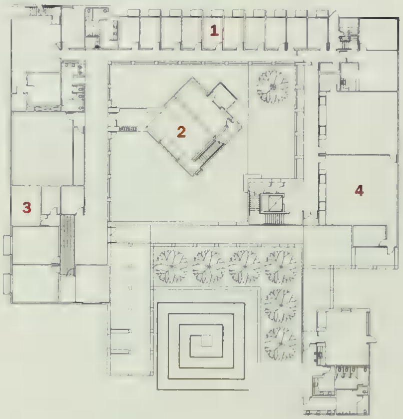




curving light monitor.

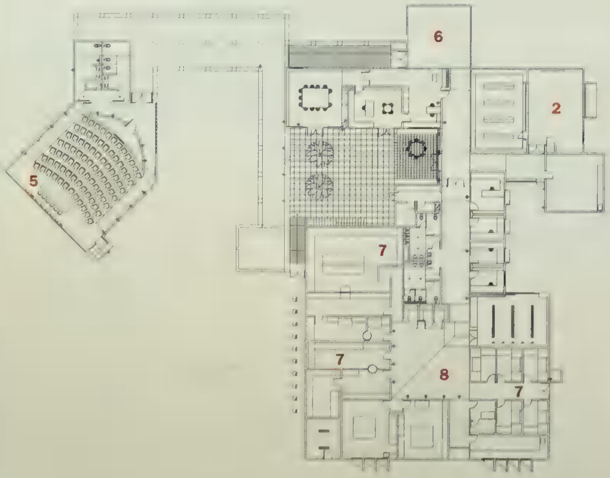
The Santa Fe Art Institute, which lies east of the Marion Center, is a 15,000-square-foot compound with dormitories for the students, skylit studios, library, conference room, and offices. At its center is a purplish-blue courtyard where people can enjoy an outdoor meal or put up a temporary exhibit. The art institute also has the project's most iconic piece of architecture: a three-sided entry tower.

As he likes to do with projects outside his own country, Legorreta skillfully blends Mexican design elements with those indigenous to the place where he is building. ■

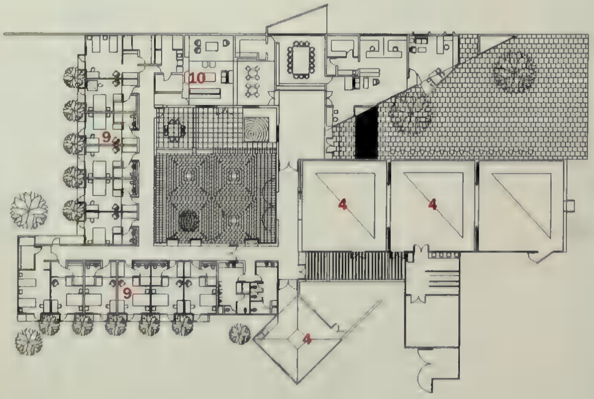


ART HISTORY QUAD, MAIN FLOOR PLAN

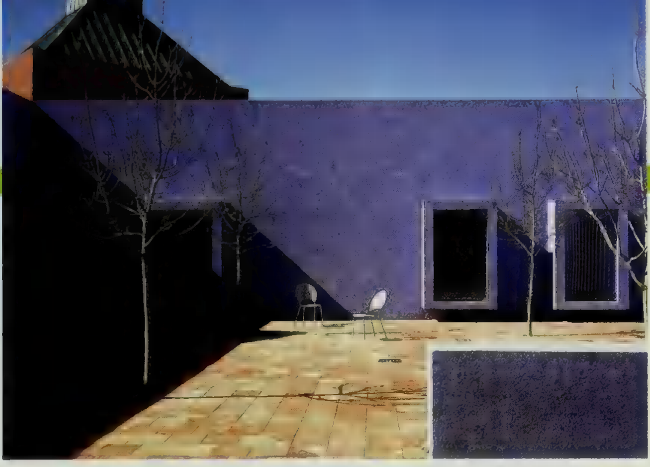
1. *Office*
2. *Library*
3. *Administration*
4. *Studio*
5. *Lecture hall*
6. *Gallery*
7. *Darkroom*
8. *Atrium*
9. *Dormitory*
10. *Living*



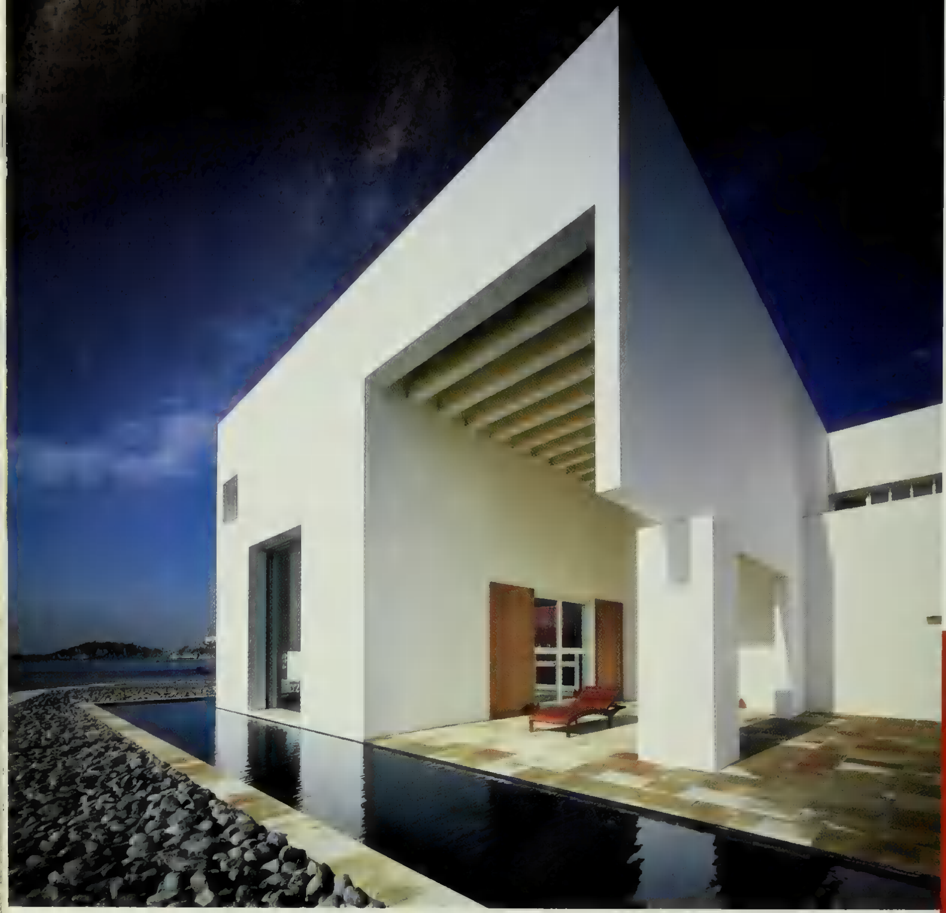
MARION CENTER, MAIN FLOOR PLAN

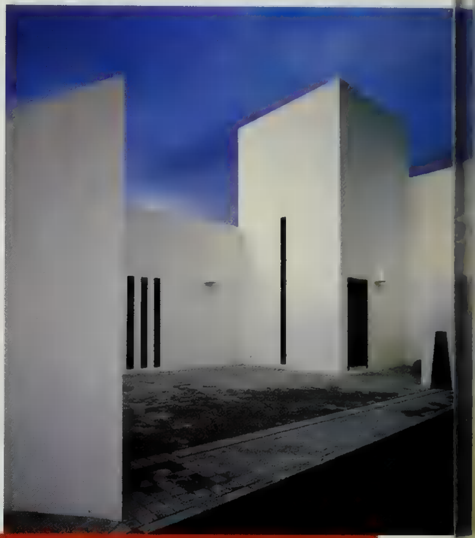


ART INSTITUTE, MAIN FLOOR PLAN



A view of the complex (opposite top) shows the Marion Center to the left and the Institute to the right. Each of the projects' components are distinct: art history (above), institute (top) and Marion Center (right).

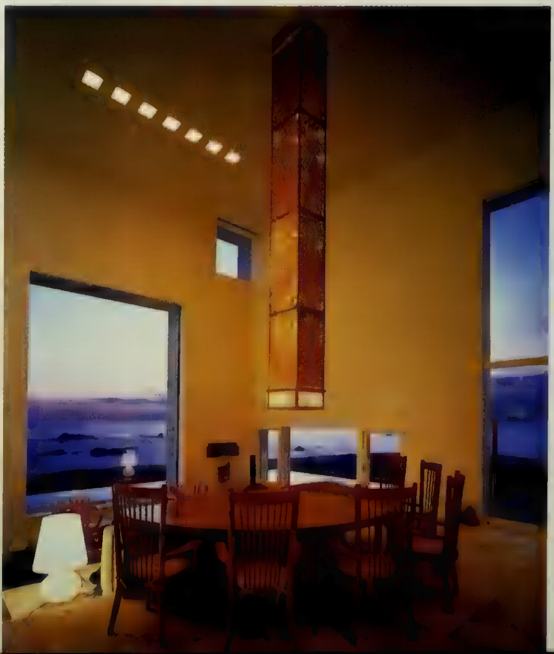


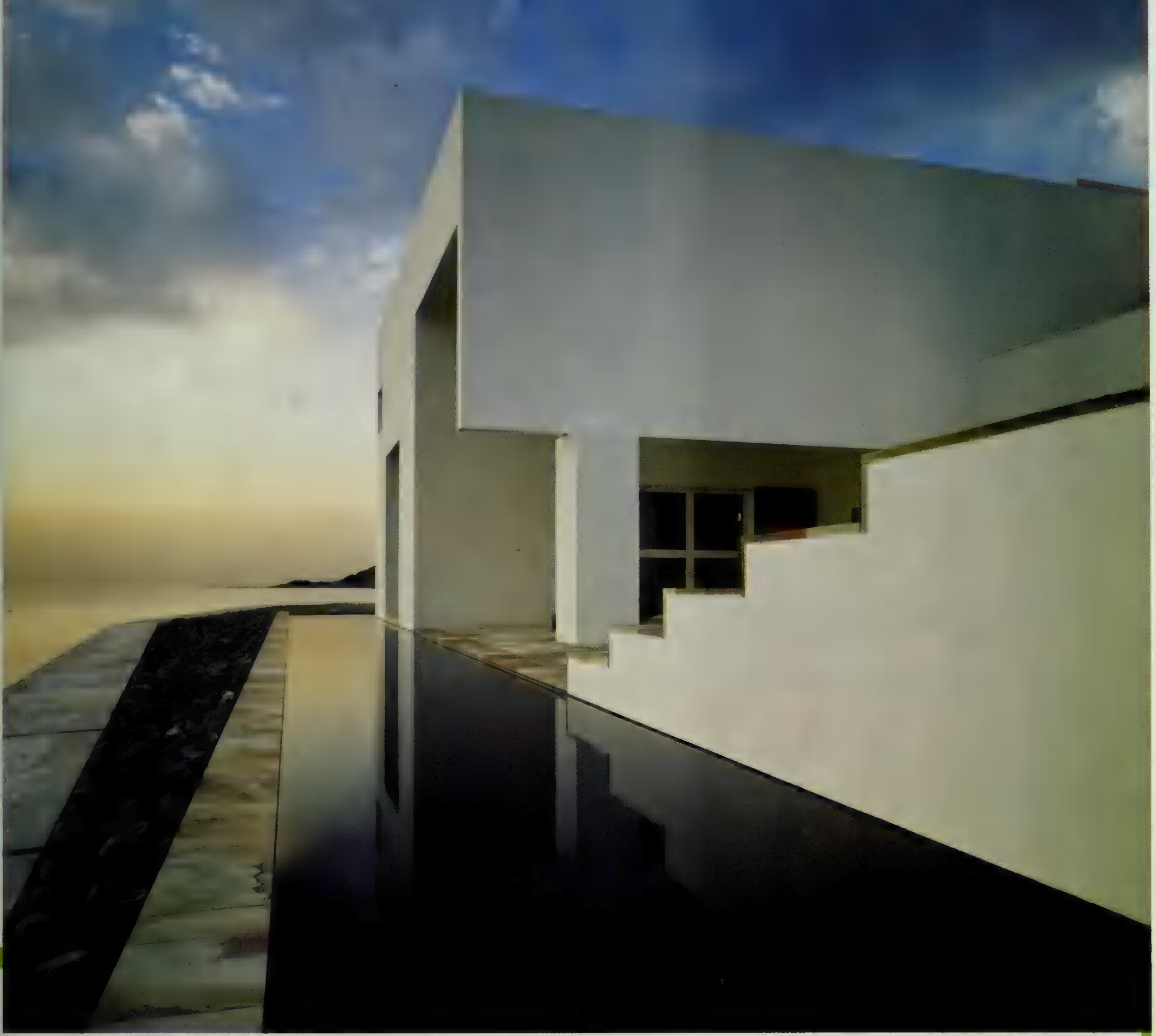


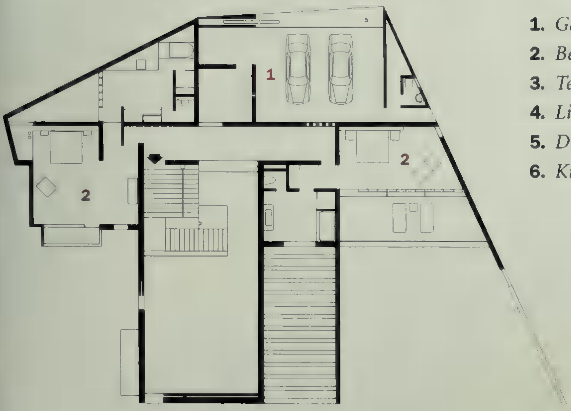
The main entrance is tucked into a tower on the upper level (above) to create a sense of mystery. The lower level (left), on the other hand, orients itself to the dramatic views.

A seaside house in Japan

Overlooking the sea south of Tokyo, this 4,800-square-foot house integrates the design traditions of two distant countries. Commissioned by a Japanese man who teaches music and admires Mexican architecture, the house offers a discreet white facade to the street, while its private side hugs the sloping site. Entered from an upper level with its parking and bedrooms, the house saves its biggest impact for the lower floor where a terrace and a covered outdoor room open to the powerful water views. Legorreta surrounded the house with a narrow swimming pool. Although the exteriors are all white, strong colors make a few appearances on the inside. The house, which was designed in collaboration with Kajima Design and built by Kajima Corporation, features stone floors, woodwork, and interior furnishings from Mexico. "I think of it as being very Japanese," says Legorreta. "But the client always calls it his 'Mexican' house." ■

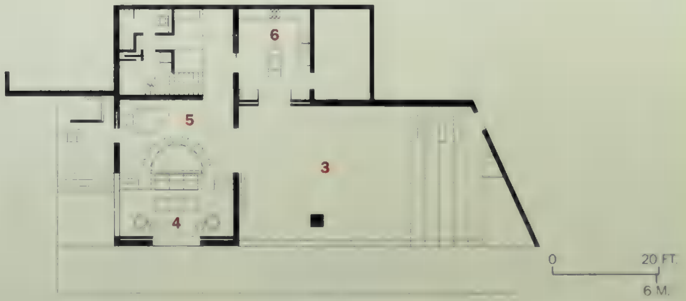




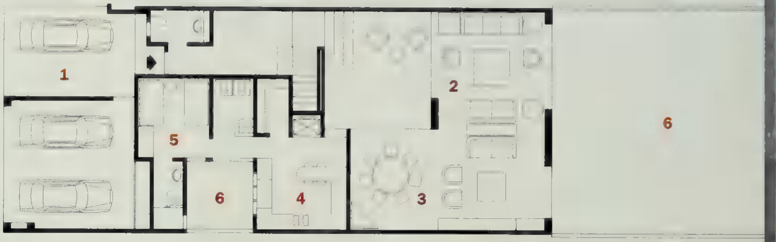


UPPER LEVEL

1. *Garage*
2. *Bedroom*
3. *Terrace*
4. *Living*
5. *Dining*
6. *Kitchen*



MAIN LEVEL



LOWER FLOOR PLAN

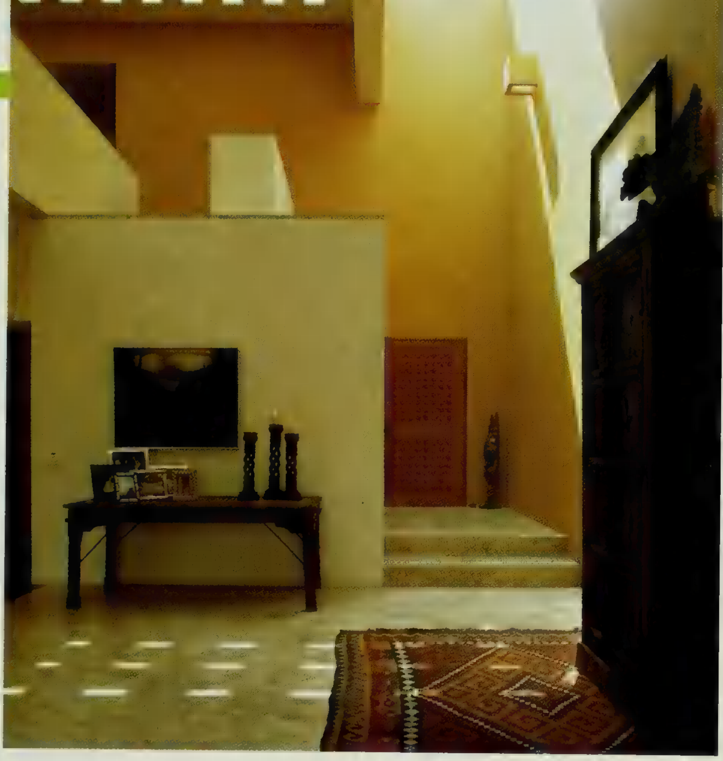
1. *Parking*
2. *Living*
3. *Dining*
4. *Kitchen*
5. *Bed*
6. *Patio*

Los Patios Townhouses

A community of 19 townhouses in the rapidly growing outer ring of Mexico City, Los Patios addresses the needs of today's middle class Mexicans. Escalating land prices, busier lifestyles, and security concerns have made attached houses on small lots more attractive to many middle-income families.

Working for a private developer, Legorreta Arquitectos designed a residential complex where each unit gets its own backyard patio, in addition to a central common garden with a fountain. By carefully siting the townhouses and surrounding patios with high walls, the architects were able to ensure privacy while creating a sense of community.

Each housing unit has covered parking out front, a patio in the back, and a two-story interior space around which the living and dining areas are focused. As he does with his large single-family houses, Legorreta uses strong colors, spatial procession, and carefully manipulated daylight to animate these townhouses. ■



The project is in a fast-growing suburb of Mexico City (below). Townhouses face a common garden (above and opposite). Light from above makes the units feel more spacious (right).

VIEWPOINT Using ancient and modern tools, Legorreta has created a powerful architecture of suggestion

By David Dillon

Modern architects want too much clarity in a building," insists Ricardo Legorreta. "They miss the pleasures of mystery and intrigue." Legorreta's buildings actually provide all three: elemental forms displayed in brilliant light; plans that unfold with the unpredictability of an old hacienda; surprising, occasionally quirky details that evoke ancient cultures and traditions in a modern setting. For all its crisp angularity, his work is suffused with intimation and innuendo, with things not seen or barely understood. And this is as true of his hotels and civic projects as of his houses and churches. His is more an architecture of suggestion than blunt declaration.

Legorreta's Visual Arts Center and Art Institute at the College of Santa Fe, New Mexico, for example, is a village of five small buildings—containing studios, galleries, dormitories, a lecture hall and a library—enclosed by enchilada-red walls and topped by an iconic triangular tower. The village has been Legorreta's starting point and organizing principle from the beginning. His buildings are seldom stiff and monolithic; they break and bend and bunch up around courtyards and gardens to create a feeling of intimacy and seclusion. Each of the courtyards in Santa Fe is different yet, as in a cloister, they speak a common language of solitude and reflection. Linked by colonnades, galleries, grilles, and screens, they induce slow, meditative movement. Offering the shortest distance between two points is not Legorreta's game. He delights in circumnavigation and rewards it with frequent surprises—a hidden staircase, a curving wall, niches filled with ethereal light, a glimpse of blue sky through a yellow ramada.

The Santa Fe arts center encapsulates Legorreta's aesthetic: walls, water, color, courtyards, and an underlying serenity regardless of scale. He has not reinvented himself every decade, adopting new forms and new materials. He is a refiner rather than a revolutionary, using the past as a guide to the future, minus the Olde Mexico sentimentality. Consequently, his houses and hotels are more impressive than his high-rises, where the jump in scale undercuts his strengths. And his occasional attempts at new building types, such as his proposal for a new sports arena in Dallas, have been clumsy. He works best close to the ground.

Contributing editor David Dillon is the architecture critic of the Dallas Morning News *and the author of* The Architecture of O'Neil Ford: Celebrating Place, *published by the University of Texas Press in 1999.*

Walls as silent collaborators

Legorreta and his mentor, Luis Barragán, reclaimed the wall for modern Mexican architecture. Instead of curtains of glass attached to slender columns, they celebrated mass and density. Transparency gave way to enclosure and the column often became purely decorative or symbolic, something to set in a reflecting pool or beside a walkway as a reminder of what is not there.

Legorreta's walls express continuity with Mexico's pre-colonial past, the world of the pueblo, and with the earth from which they rise. They impose a sense of order by giving discrete elements a single face, and by drawing a clear line between inside and outside, open and closed, public and private. They also create mystery by making us wonder what is on the other side, then denying us an easy answer. In an architecture of walls a window becomes a gift, its importance magnified by its rarity. Legorreta is a master of the framed view and the forced perspective, some of which resemble abstract paintings, others secrets. The wall, along with the screen and the grille, are his silent collaborators.

Like many of Legorreta's buildings, the Camino Real Hotel in Ixtapa celebrates water in all its moods and attitudes. The hotel, on the Yucatan Peninsula, was completed in 1981.

Water: another plane for the architect to design

Legorreta's buildings celebrate water in all of its moods and attitudes, from riotous to reticent. At the Camino Real Hotel in Ixtapa it is appropriately festive—cascading over steps, rushing from aqueducts, and jetting across swimming pools. In many of his houses, such as the Montalban house in Hollywood and the one he designed in Japan, water becomes another plane, mirroring the sky and extending the lines of floors and *(continued on page 158)*

Clockwise from top: the Solana complex in Dallas; the Tech Museum in San Jose, California; and the San Antonio Main Library.

AN ARCHITECTURE OF SUGGESTION

continued from page 156

walls until they liquefy. In some places water is mostly sound, as in a Moorish garden, in others it becomes a mirror for walls and sky. In the Santa Fe arts center water appears not only in courtyard pools and fountains but outside the walls in the form of a shallow acequia or irrigation channel that links the buildings symbolically to the region's ancient agrarian culture.

Color: rooted in the vernacular

Color is Legorreta's instrument for making modern architecture sing. He drenches his buildings in it, as though it were a building material. "It is not a complement," he insists. "It is a fundamental element." Color dramatizes form, turns walls into paintings and stirs emotions. "Without it the world would not exist," he maintains.

The importance [illegible] walls and courtyards in Legorreta's work is evident in his offices for Televisa in Mexico City (above) and the Camino Real Hotel in Mexico City (below).

Legorreta's colors can seem hallucinatory and apparitional—fuchsia, magenta, cobalt blue, cadmium yellow—yet have their sources in the vernacular buildings of Mexico, the brilliant clothing of the native Indians, the murals of Rivera and Orozco, the dirt beneath his feet. When homeowners around Solana, IBM's regional headquarters near Dallas, threatened to sue him over his purple walls and yellow pylons, he persuaded them that he was merely copying bluebonnets, firewheels, and other local wildflowers.

Legorreta is a scholar of color, collecting rocks and soil to discover the tones and textures of a place, bringing them back to his studio as reminders of where he has been. He meditates on color and his use of it is more intuitive and emotional than rational: "I do not say I will make a wall and paint it red. I say I will make something red and it may be a wall."

Courtyards and gardens

At the center of Ricardo Legorreta's buildings—even his sprawling factories and corporate compounds—is a reassuring stillness generated by courtyards and gardens. Their inspiration is as old as the pueblo and the colonial hacienda, and as modern as the work of Barragán, who preferred to call himself a landscape architect and made the most eloquent case for the superiority of pleasure to convenience. "The construction and enjoyment of a garden accustoms people to beauty," wrote Barragán, "to its instinctive use, even to its pursuit." Legorreta's views are somewhat less poetic and more pragmatic, yet entirely consistent. "In modern life we are exposed continuously to stress," he said a few years ago. "To arrive at a place and find peace is extremely rewarding. If I work 12 or 14 hours a day, then a moment of peace becomes the most creative moment of the day. Those moments are an essential part of my life. You cannot separate architecture from happiness."

Telling stories with space

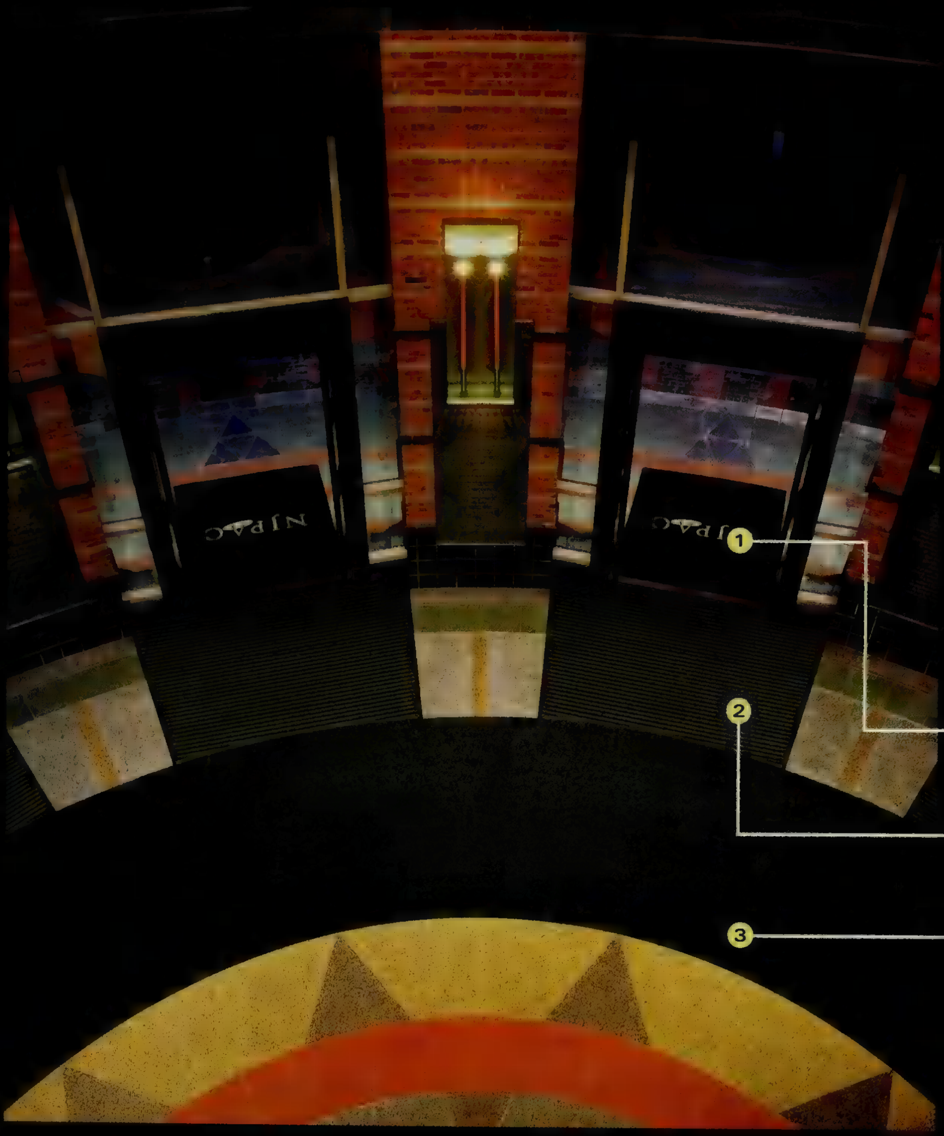
Legorreta's gardens and courtyards are private, introspective spaces in which to relax and catch one's breath, places of renewal created by water, color, and light—still but not static, discrete yet not disconnected. From one it is usually possible to look through screens and grilles to a second and a third, a thread of outdoor rooms. He is a master of continuous, flowing space that draws us into and through his buildings, like a good story. We want to know what happens next, and how it all turns out.

Sometimes the story is long and complex, like Solana's, which begins in a series of landscaped outdoor rooms at the freeway intersection—evocations of an earlier agricultural landscape—then meanders through a blue vaulted lobby, a kind of secular chapel, and finally to offices and meeting rooms surrounded by gardens with lush vegetation and shallow pools, like a corporate Alhambra.

The story can also be short and punchy, as in the San Antonio Central Library. The main entrance is a simple break in the street wall, which opens into a forecourt with a lively fountain, which then leads to a blue foyer and finally a bright yellow atrium, six stories high, with a diaphanous scrim on top. At certain times the light seems to float through the space, as though it had been sprinkled; at others it looks sharp enough to carve with. Within a few hundred feet one moves from the glare of the street to the coolness of the foyer to the exhilaration of the atrium.

Ricardo Legorreta's debts to classic modernism are obvious in his crisp geometry, spare detailing, and asymmetrical plans. He learned to practice architecture from Jose Villagran, a modernist and a rationalist, but ultimately found Villagran's work too rigid and emotionless to sustain him. Color, water, and the artful integration of building and landscape became his way out of the rationalist box. He remains something of an anomaly among contemporary architects, with admirers but few disciples. Antoine Predock may be his most kindred spirit. Even though his work has traveled well—to Los Angeles, Bilbao, Japan—it remains rooted in Mexico. His style, if we can use such a term, is a highly personal synthesis of pyramids and pueblos, the houses of peasants and the palaces of princes, all abstracted into something that is as much attitude as look. ■

Introducing the first high performance, fully integrated Entrance Flooring System.



Research suggests that entrance flooring should span 18 feet to effectively stop dirt and water from entering your building. However, most buildings' entrance mats are inadequate so maintenance people must compensate with ugly "throw-down" mats.

C/S designed an attractive, integrated system that provides full protection against tracked-in dirt and water.

Zone 1: Scrapes off severe dirt/water before it enters.

Zone 2: Traps and hides secondary dirt in its grid.

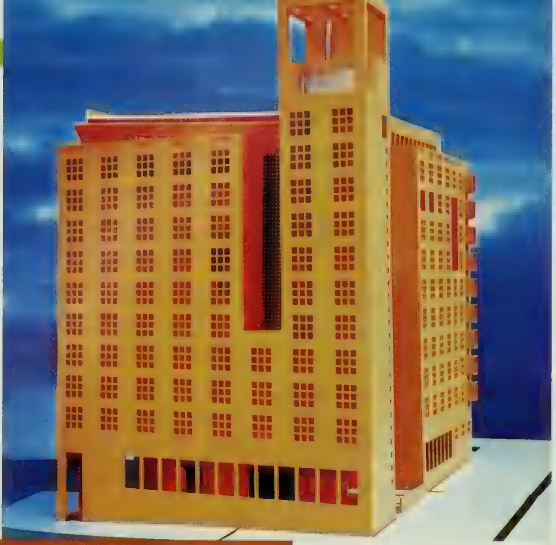
Zone 3: Collects any dirt/water missed in Zones 1 & 2.

New C/S Entrance Flooring Systems

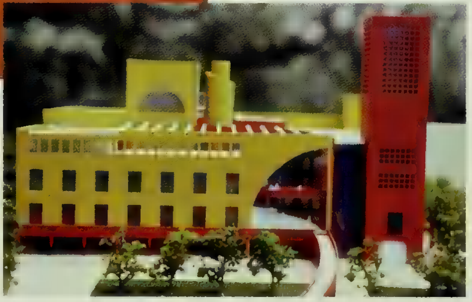
See us at Booth #1908 AIA Convention

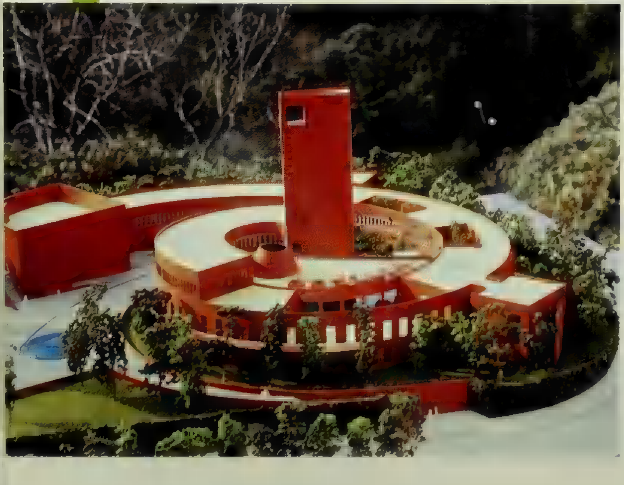
1-888-621-3344 • www.c-sgroup.com

CIRCLE 73 ON INQUIRY CARD



Projects on the boards: hotel in Bilbao (top), to be completed at the end of 2001; Commons Building at the Mission Bay campus of UC San Francisco (middle); and EGADE Graduate Business School in Monterrey, Mexico (bottom).





LEGORRETA INTERVIEW *(continued from page 147)*

is there. Because you can get the best client, the best architect. But if you don't get along, it's not going to work. I think it's honest to say no or to recommend some other architect, to tell them, "Look, you're better off with somebody else."

AR: *Your work is specific; it comes out of this wonderful architecture of Mexico. But now you are doing projects all over the world—France, Spain, the United States, Japan. How does your work transfer to other locales?*

RL: First, people look for what you do. They ask for what you've already done. But you cannot transplant [designs from one place to another]. Also, you want to respect the culture of the place where you are working. So you have to be very, very careful and be very open-minded. Until recently we worked mostly in the south and west, where the culture and climate is similar [to that of Mexico]. Now we're doing some dormitories for the University of Chicago. There the culture, the life, is completely different. The sizes of windows, how much light you're going to get, all those kinds of things are different. For example, I never thought before how any of our buildings would do with the snow. And the moment you consider snow, then you start to realize it's not only insulation and all those other technical aspects that are different. It's the philosophical aspect—what you feel when you enter a building when it's freezing outside. In Mexico we integrate the inside and the outside. In Chicago, that would not work.

So it is a tremendous challenge and it takes the courage to do things right. For example, in Chicago when we presented our scheme, the school, the teachers, the students, and the donors asked, "Where's the color?" They were asking for color. And I said, "Look, I don't think we should have a purple building in Chicago. But let's see how we can bring it in." So we started to bring in color on the inside.

There is a give-and-take in all of this. It is very difficult because you still have to be yourself. I cannot say, "Now, Ricardo Legorreta is going to be one Ricardo Legorreta in Mexico and another one in Chicago." It's not possible.

AR: *With the advent of computers, new ways of building and massive changes, how do you see your own work evolving? Are you using any new materials, for instance, or construction systems?*

RL: Yes. But I don't think we're using enough. I am ready to use more. Maybe not in Mexico, where labor is very cheap and where a traditional way of living makes it difficult to impose high tech at this moment. That doesn't mean we shouldn't consider it, only that you have more problems with it in Mexico. We're beginning to do more in terms of new materials, new construction techniques, high-tech engineering. But in architecture, I'm finding that that doesn't change rapidly. It's an evolution. I'm willing to change, very much so. But to change in the sense of an evolution. And in the sense of changing not for the sake of change, but because we are entering another age, a new way.

AR: *You've accomplished so much in your career, what is left?*

RL: Well, first, I still have to accomplish excellence. The good thing about architecture is that you see your mistakes easily. I would like to do more low-income housing. I did one project in the 1970s, but that was a long time ago. The other thing I would like to accomplish is not about buildings, but is to help create a strata or group of architects in Mexico who really are good and serious. It happened in the United States in the '40s and '50s. I'm not talking about style, I'm talking about people who really want to do good architecture. ■

WILL THE REAL 100% RUBBER COVE BASE PLEASE RAISE YOUR HAND.

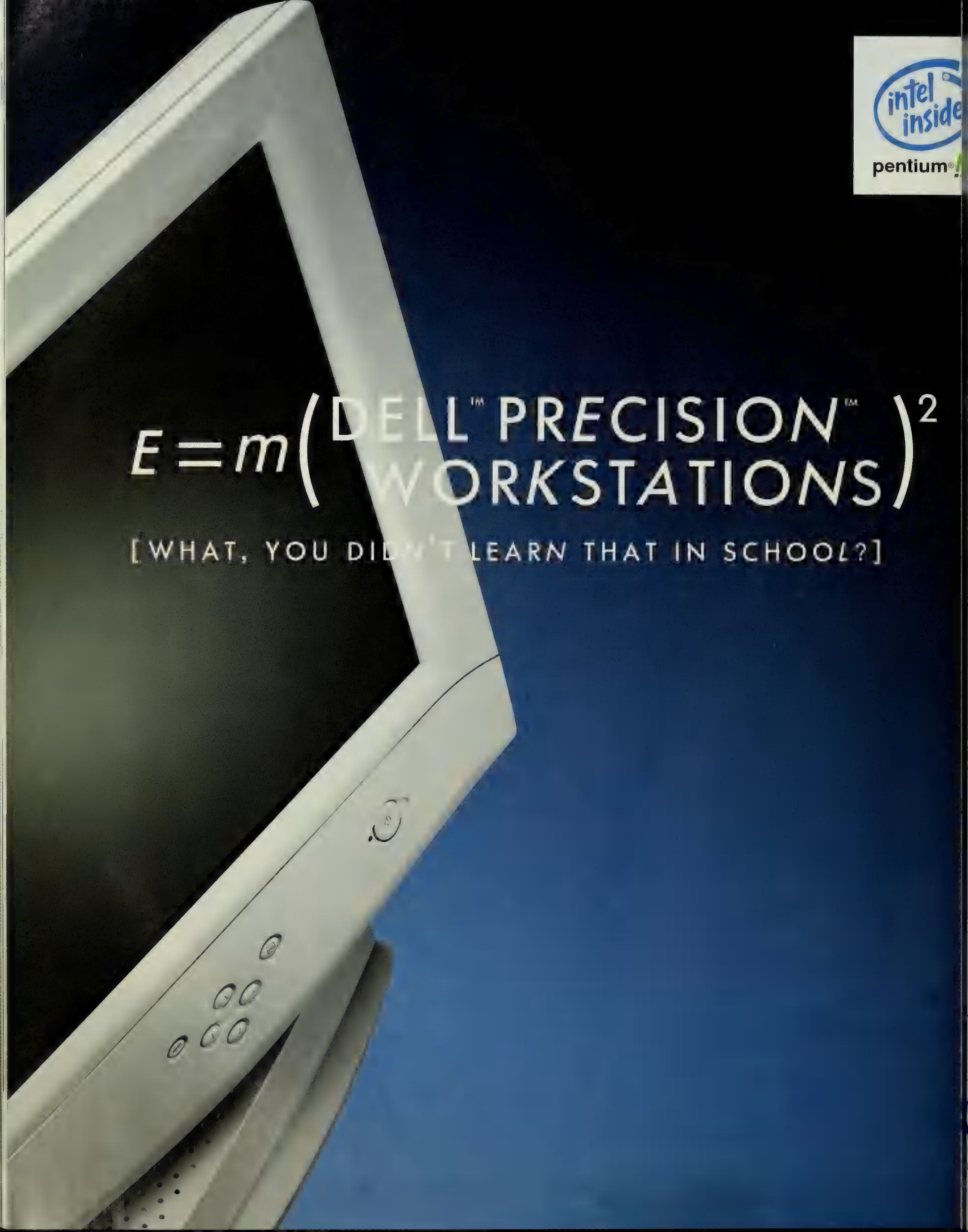
Roppe Corporation 1602 N. Union Street, Box 1158 Fostoria, Ohio 44830-1158 USA.
800-537-9527 / 419-435-8546 Fax: 419-435-1056 internet: www.roppe.com
e-mail: sales@roppe.com For free samples call toll free 1-877-SAMPLE-4

Roppe

Some "rubber" base products are up to 97% vinyl. But Roppe real Rubber Wall Base (type TS) is 100% vulcanized rubber. It won't shrink and doesn't need to be acclimated to building conditions prior to installation. So you can use it with confidence.

Rely on Roppe rubber base for years of worry-free wear. Because nothing performs like rubber. And nobody knows rubber like Roppe.

CIRCLE 74 ON INQUIRY CARD


intel inside
pentium®
E = m(DELL™ PRECISION™ WORKSTATIONS)²
[WHAT, YOU DIDN'T LEARN THAT IN SCHOOL?]

Flat Panel Monitor Sold as an Upgrade.

Sit back. Close your eyes. Feel what it's like to travel at speeds previously unknown to humans. With the option of dual Intel® Pentium® III processors up to 866MHz, rendering time can melt into a phantasmic blur. And when running CAD/CAM apps with advanced graphics cards like the New 64MB 4X AGP GLoria II Pro, your models can be displayed with frightening precision. The final result? Your clients stare at you in awe and whisper "super genius."

DELL™ WORKSTATIONS:

DELL™ PRECISION™ 220

- Intel® Pentium® III Processor at 533MHz (up to 866MHz)
- Dual Processor Capable
- 64MB ECC RDRAM (up to 512MB)
- 10.2GB[5] EIDE HD (up to 36GB[5] 10K Ultra3 SCSI)
- 17" (16.0" vis) M781 Monitor (up to FP)
- 32MB 4X AGP Matrox G400 Max Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- MS® Windows NT® Workstation 4.0
- 3-Yr Next-Business-Day On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$1869 E·VALUE CODE 89790-490518

BUSINESS LEASE: $63/MO., 36 MOS.

ASK ABOUT OUR AIA DISCOUNT

DELL™ PRECISION™ 420

- Intel® Pentium® III Processor at 600MHz (up to 866MHz)
- Dual Processor/RAID Capable
- 128MB ECC RDRAM (up to 1GB)
- 10.2GB[5] EIDE HD (up to 36GB[5] 10K Ultra3 SCSI)
- 17" (16.0" vis) M781 Monitor (up to FP)
- 32MB 4X AGP Matrox G400 Max Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- MS® Windows NT® Workstation 4.0
- 3-Yr Next-Business-Day On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$2459 E·VALUE CODE 89790-490524

BUSINESS LEASE: $82/MO., 36 MOS.

ASK ABOUT OUR AIA DISCOUNT

DELL™ PRECISION™ 620

NEW Ultimate Performance Workstation

- Intel® Pentium® III Xeon™ Processor at 733MHz (up to 866MHz)
- Dual Processor/RAID Capable
- 128MB ECC RDRAM (up to 2GB)
- 9GB[5] (10K) Ultra3 SCSI HD (up to 36GB[5] 10K)
- 17" (16.0" vis) M781 Monitor (up to FP)
- 32MB 4X AGP Matrox G400 Max Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- MS® Windows NT® Workstation 4.0
- 3-Yr Next-Business-Day On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$3549 E·VALUE CODE 89790-490535

BUSINESS LEASE: $119/MO., 36 MOS.

ASK ABOUT OUR AIA DISCOUNT

SYSTEM OPTIONS

Graphics Cards:
- NEW 32MB 4X AGP Synergy Force
- NEW 64MB 4X AGP GLoria II Pro (420 & 620 only)
- NEW Intense 3D Wildcat 4110 Pro (420 & 620 only)
- NEW IEEE 1394 Adapter Card

Monitors:
- 17" (16.0" vis) P780 FD Trinitron® Monitor
- 19" (17.9" vis) P991 FD Trinitron® Monitor
- 21" (19.8" vis) P1110 FD Trinitron® Monitor
- 19" (17.9" vis) M990 Monitor
- 15" (15.0" vis) FP1501 Flat Panel Monitor

Operating Systems:
- Microsoft® Windows® 2000 Professional
- Red Hat® Linux™ (420 & 620 only)

DELL.COM

GET EXACTLY WHAT YOUR BUSINESS IS LOOKING FOR. | **800.766.0279** | WWW.DELL.COM

VALUE™

USE THE POWER OF THE E·VALUE CODE. Match our latest technology with our latest prices. Enter the E·VALUE code online or give it to your sales rep over the phone. www.dell.com/evalue

Call: M-F 7a-9p | Sat 10a-6p | Sun 12p-5p CT | Canada[1]: 800-839-0148 | Mexico[1]: 01-800-021-4531 | GSA Contract #GS-35F-4076D

Prices, specifications, and availability may change without notice. Taxes and shipping charges extra, and vary. Cannot be combined with other offers or discounts. U.S. only. For a copy of Guarantees or Limited Warranties, write Dell USA L.P., Attn: Warranties, One Dell Way, Round Rock, Texas 78682. Service may be provided by third party. Availability varies. Technician will be dispatched, if necessary, following phone-based troubleshooting. [5]For hard drives, GB means 1 billion bytes; accessible capacity varies with operating environment. Business leasing arranged by Dell Financial Service L.P., an independent entity, to qualified customers. Lease payments based on a 36-month 10% purchase option lease and do not include taxes, fees and shipping charges. Subject to credit approval and availability. Lease terms and pricing subject to change without notice. Intel, the Intel Inside logo, and Pentium are registered trademarks and Intel SpeedStep, Pentium III Xeon, and Celeron are trademarks of Intel Corporation. MS, Microsoft, BackOffice, IntelliMouse, Windows NT, and Windows are registered trademarks of Microsoft Corporation. 3Com is a registered trademark and Fast EtherLink is a trademark of 3Com Corporation. HP and DeskJet are registered trademarks and OpenView is a trademark of Hewlett-Packard Corporation. Trinitron is a registered trademark of Sony Corporation. ©2000 Dell Computer Corporation. All rights reserved.

PAC-CLAD®
Petersen Aluminum

1005 Tonne Road • Elk Grove Village, IL 60007
1-800-PAC-CLAD or 1-847-228-7150
Fax: 1-800-722-7150 or 1-847-956-7968

Other Plant Locations:
Annapolis Junction, MD: **1-800-344-1400**
Tyler, TX: **1-800-441-8661**
NEW Kennesaw, GA: **1-800-272-4482**

http://www.pac-clad.com

INTELLIGENT CHOICE

PAC-CLAD®
Metal Roofing

PAC-CLAD Metal Roofing Panels are a smart choice for your next project. Combining structural integrity with aesthetics, our roofing panels are also backed with a 20 year non-prorated warranty.

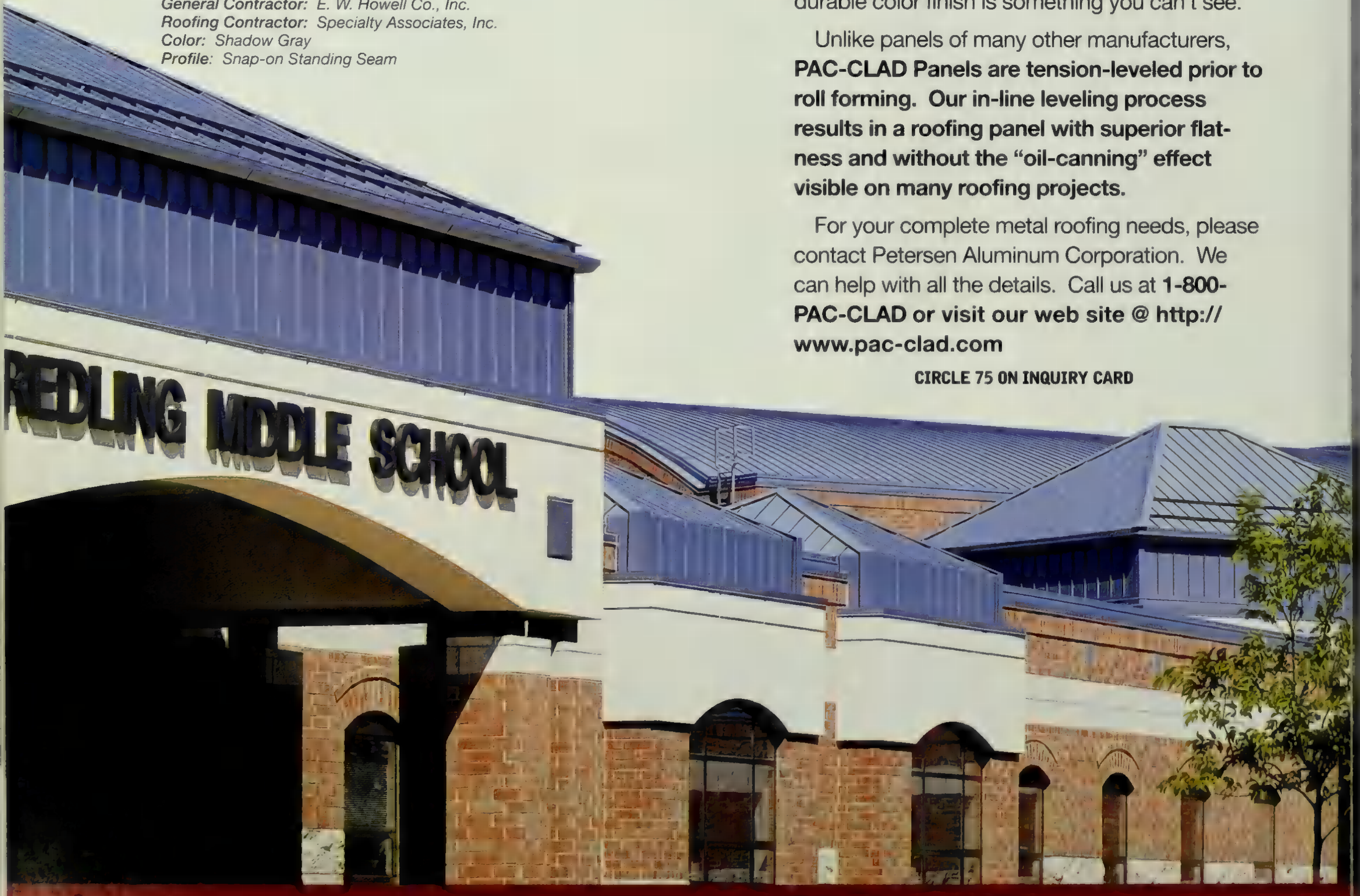
PAC-CLAD Panels are available from stock in 30 standard Kynar® colors. And beneath that durable color finish is something you can't see.

Unlike panels of many other manufacturers, **PAC-CLAD Panels are tension-leveled prior to roll forming. Our in-line leveling process results in a roofing panel with superior flatness and without the "oil-canning" effect visible on many roofing projects.**

For your complete metal roofing needs, please contact Petersen Aluminum Corporation. We can help with all the details. Call us at **1-800-PAC-CLAD or visit our web site @ http://www.pac-clad.com**

CIRCLE 75 ON INQUIRY CARD

Wredling Middle School
St. Charles, IL
Owner: *St. Charles School District*
Architect: *Hestrup & Associates*
General Contractor: *E. W. Howell Co., Inc.*
Roofing Contractor: *Specialty Associates, Inc.*
Color: *Shadow Gray*
Profile: *Snap-on Standing Seam*



Covers Your Sheathing.
Also Your Butt.

Introducing Gold Guard. A barrier against moisture, not design.

Despite misconceptions, EIFS provides a better moisture barrier than other claddings. Now we've taken it even further. Introducing Sto Gold Guard — a moisture protection system that resists water penetration more than 5 times longer than leading brand house wraps and 28 times longer than conventional building paper. Gold Guard has two easily-applied steps (all you need is a trowel and a roller). And when combined with EIFS, you get seamless moisture protection for years. Now you can create memorable, lasting designs with EIFS without having to watch your...um...back. Start today by visiting our Web site at **www.stocorp.com** or calling **1-800-221-2397**.

sto

100% Acrylic Polymers

CIRCLE 76 ON INQUIRY CARD

GENSLER named Firm of the Year for being a successful model of architectural practice

> "We **believe** any business person ought to worry about the client, listen to the client, and solve the client's problem," says Gensler CEO and founder, M. Arthur Gensler, Jr.

By Elizabeth Harrison Kubany

Seated, left to right: *David Gensler, managing director, London; Diane Hoskins,* AIA, *managing principal, Washington, D.C.; Robin Klehr Avia, managing principal, New York; Daniel Winey,* AIA, *managing principal, San Francisco.* **Standing, left to right:** *James Furr,* FAIA, *managing principal, Houston; Edward Friedrichs,* FAIA, *president; Joseph Brancato,* AIA, *managing principal, New York; Andrew Cohen,* AIA, *managing principal, Santa Monica; M. Arthur Gensler, Jr.,* FAIA, *chairman and chief executive officer; Antony Harbour, managing director, London; member of board of directors Margo Grant Walsh, vice chairman and managing principal, New York; Walter Hunt,* AIA, *managing principal, New York.*

The year was 1972, and M. Arthur Gensler, Jr., founder, chairman, and CEO of the Gensler firm, was vacationing in southern California. That year, Don Fisher had opened the first Gap store and, seven years earlier, Gensler had established his architectural practice. Approaching Art on the beach, Don said, "I hear you're an architect. I have one store and want to open a second. I need a draftsman. Can I borrow one?" Art wasn't in the business of lending out his people and couldn't see how he'd make money that way, but he agreed. Two weeks later, when Don called Art to borrow a manager, Art lent him one. After about three months, Don told Art, "I give up. You do the store." Gensler has now done more than 1,500 Gap stores and billed Don every month for 28 years. Good luck? In part. But a lesser businessman might have been intimidated by the idea of giving up his employees. As Gensler says, "We've been client responsive since the beginning."

The customer is always right

As a firm, Gensler has elevated customer care to a religion: "We believe any businessperson ought to worry about the client, listen to the client, and solve the client's problem," says Art Gensler. "We have always taken the attitude that we do our best work for our best clients." The firm's rel-

Gap
San Francisco, CA, 1999

THE AWARD

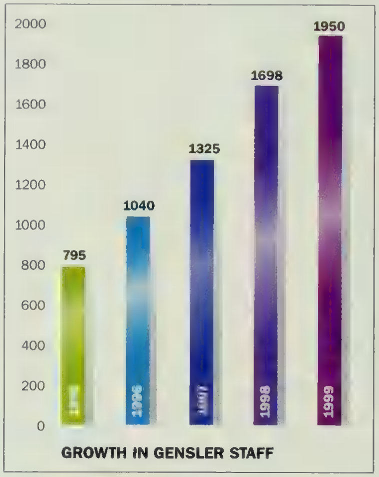
The American Institute of Architects views its annual Firm Award as the highest honor it can bestow on a practice producing consistently distinguished architecture. Yet the roster of past winners includes firms known—and not known—for design impact. By contrast, the Gold Medal, the AIA's highest distinction for an individual, perennially recognizes architects for a singular vision: Thomas Jefferson, R. Buckminster Fuller, and Frank Gehry are among the 57 winners. The Gold Medal, unlike the Firm Award, has rarely been called into question.

Nonetheless, in 1996 and 1997, the AIA convened a task force to reexamine all its awards and elevate the Firm Award's status. According to Barton Phelps, FAIA, a review committee member, the group agreed that the Gold Medal should continue to honor "individuals having a profound impact on world culture, through built work, writing, or teaching." The Firm Award, they decided, should recognize "spectacular group operations, where an enduring, unified, and efficient social mechanism enhanced productivity."

If these be the criteria, then it makes sense for Gensler, a firm that stands out in the architectural profession for skillful management, smart business tactics, and a singular corporate culture, to receive the Firm Award—and this year it finally won it. E.H.K.

Retail

By happenstance, Art Gensler landed the commission for the second Gap store in 1972. Since then, his firm has designed more than 1,500 projects for The Gap, along with numerous other projects for some of the nation's largest retailers.



In 1998 Gensler worked on more than 3,800 projects for more than 960 clients worldwide.

atively humble beginnings, doing tenant development work, grounded its responsiveness to end users' needs. As the founder sees it, in the early days, "We were hired to provide a service, not to design something gorgeous."

Today the firm culture still reflects this attitude. As Art Gensler says, "We have purposely not developed a signature style," trying instead to find the right direction for each project. Ed Friedrichs, the firm's president, concurs: "We are highly adaptive in our design work to best suit client issues. We try to understand how a client's organization works because we truly believe that design enhances their performance."

Concern for building users prompted Art Gensler to launch a practice focused on interiors—a strategy that immediately separated it from the rest of the profession. "When I started my first office, no architecture firm cared about interiors—there was not even a fee structure for them." Gensler expanded and made more professional the practice of interior architecture. His company began high-level collaborations, doing the interiors for buildings by top firms, such as Kohn Pedersen Fox, Cesar Pelli, SOM, Pei Cobb Freed, and Philip Johnson. "We never tried to change the architecture," says Art Gensler, "just to make the buildings better for the end user."

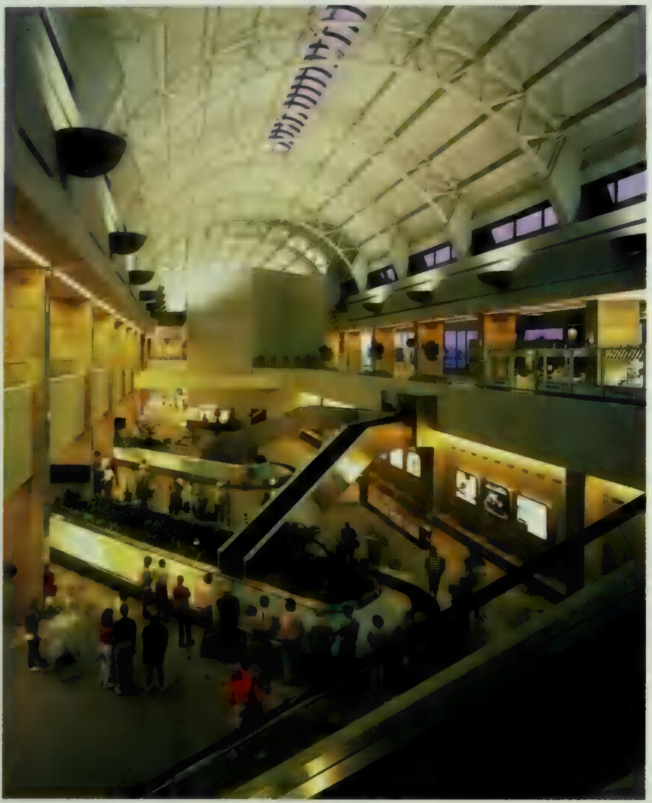
This approach has made good business sense. According to Margo Grant Walsh, the firm's vice chair and managing principal of its New York office, at least five of Gensler's 17 offices—New York, Houston,

SF MOMA/Bookstore
San Francisco, Calif., 1994

The North Face
Chicago, 1996

Airports

Since its first airport project in 1978, Gensler has completed almost 90 others.



John Wayne Airport
Orange County, Calif, 1990
For a list of collaborating architectural firms, please visit our Web site at: www.architecturalrecord.com

Austin-Bergstrom International Airport
Austin, Tex., 1999
For a list of collaborating architectural firms, please visit our Web site at: www.architecturalrecord.com

In 1999 Gensler's gross construction dollar volume was $2.5 billion.

Austin-Bergstrom International Airport

THERE ARE WINDOWS AND THERE ARE MIRRORS. WE DON'T GET THEM CONFUSED.

Ordinary glass

AMIRAN anti-reflective glass

AMIRAN® anti-reflective glass is so clear, it's like it's not even there. Mirrors are great for seeing yourself. They're not so great for seeing what's on sale. Or what's inside a zoo, museum, restaurant – anyplace where visibility counts. That's when you need Amiran anti-reflective glass. For years it's been virtually eliminating glare to as little as 1%. There are other advantages, too. Amiran saves money. It lets more light pass through than regular glass, so lighting fixture and energy costs are lower. And only Amiran has a 15-year track record for reliability. Amiran anti-reflective glass is available in tempered, laminated and insulated glass panels for delivery anywhere in the U.S. Because if you want a window, we think you should get a window. Let us put some Amiran in your hands so you can see the dramatic difference for yourself. Call 914-378-3839 or write Schott Corporation at 3 Odell Plaza, Yonkers, NY 10701 for samples. For more details, visit www.schottglass.com/amiran.htm.

SCHOTT
glass made of ideas

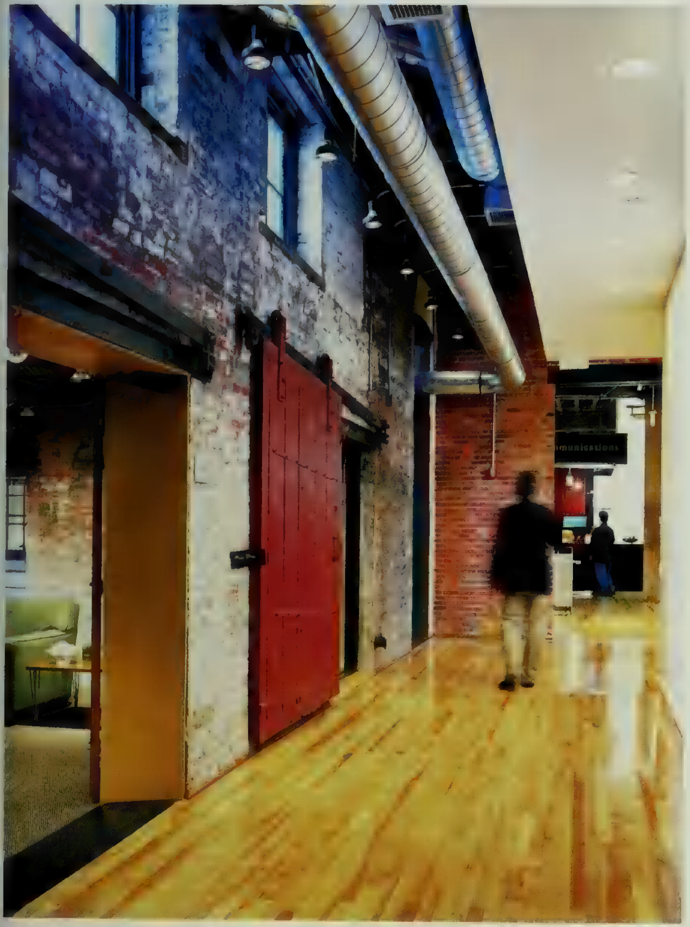
© 1999 Schott Corporation. ® Amiran is a registered trademark of Schott Glas, Mainz, Germany.

CIRCLE 77 ON INQUIRY CARD

Workplace

Corporate work—ranging from interior fit-outs to new campuses for law firms, financial institutions, high-tech companies, or media/advertising agencies—has long been Gensler's lifeblood. Since 1965, the firm has designed almost 200 million square feet of office space around the world.

Eisner Communications
Baltimore, 1999



Swiss Re New Markets
New York City, 1997

Oracle
Redwood City, Calif., 1999

Think what you could create
with architectural software
that thinks like you do.

www.bentley.com/triforma

+1 800 BENTLEY (US only) or +1 610 458 5000
In Europe/Middle East/Africa call +31 23 556 0560
In Asia-Pacific call +61 3 9699 8699

BENTLEY

CIRCLE 78 ON INQUIRY CARD

Bentley, the B Bentley logo and TriForma are registered trademarks of Bentley [illegible], Incorporated or Bentley Software, Inc. ©2000 Bentley Systems, Incorporated [illegible]

Washington, London, and Boston—opened for interiors commissions. While these offices all have major architectural practices, interiors remain their prime raison d'être. Ninety percent of the New York office's work is still in this realm. Says Walsh, "The very nature of interiors is repetitive. Whether downsizing or upsizing, our clients need our help. With some, we have been through three leases."

Of Fortune 500's largest U.S. corporations in 1999, Gensler's clients include 8 of the top 10, 18 of the top 25, and 66 of the top 100. One hundred eighty of the 500 are Gensler clients.

Commitment minded

The practice follows a "relationship model," says Ed Friedrichs, whereas most firms favor a transactional model, which is singular, and project focused. The difference in the two approaches is critical. "I have to live with the results because I want to establish a relationship. A transaction I could walk away from as soon as the project is complete," he explains. Half of the firm's current project load represents clients for whom Gensler has worked in more than one location, and a quarter of its business caters to clients for whom it is the sole architectural provider. Gensler has completed more than four projects each for so many different clients that the list reads like a Who's Who of Fortune 500 companies: American Airlines, American Express, AT&T, Bank of America, Bell Atlantic Corporation, Disney, Ernst & Young, General Motors Corporation, Hewlett-Packard, IBM Corporation, Lucent Technologies, and McDonald's Corporation. And the roster goes on and on.

Such solid liaisons—not marketing—have guaranteed a steady work flow. Instead of a marketing staff, maintains Gensler, "We have three to four thousand clients who spread the word. A firm our size couldn't exist if we had to rely on marketing." In a highly competitive profession, Gensler is one of the few firms that can honestly say its work walks in the door.

Predicating its business on strong relationships, the firm will not open an office unless it is brought to a new city by an existing client. The same holds true for the firm's forays into new service areas. "As our clients began looking for one-stop shopping, we extended our services to include areas that may not traditionally be housed in an architectural firm," says Gensler. Strategic planning, as well as graphic and product design, are now among the firm's holistic offerings. "We're not growing for the sake of

PricewaterhouseCoopers' Zone
Philadelphia, 1999

Nikken, Inc.
Irvine, Calif., 2000

Quality windows and doors make a building more attractive.
Funny. They do the same thing for the
ARCHITECT.

Quality commercial windows and doors make a visual statement about a building and the architect. Windows and doors from a WDMA member will meet your highest aesthetic and performance standards for years to come — and keep you looking good to your clients.

WINDOWS, DOORS AND SKYLIGHTS MATTER.

Ask your suppliers if they're members of the WDMA. For more information about WDMA windows, doors and skylights, call 800-223-2301 or visit our Web site at www.wdma.com.

WDMA
Window & Door Manufacturers Association

CIRCLE 79 ON INQUIRY CARD

Entertainment/Leisure

While entertainment is not the firm's biggest market, Gensler is still designing for some of that industry's giants, such as Sony Pictures Entertainment, Disney, and AMC Entertainment.

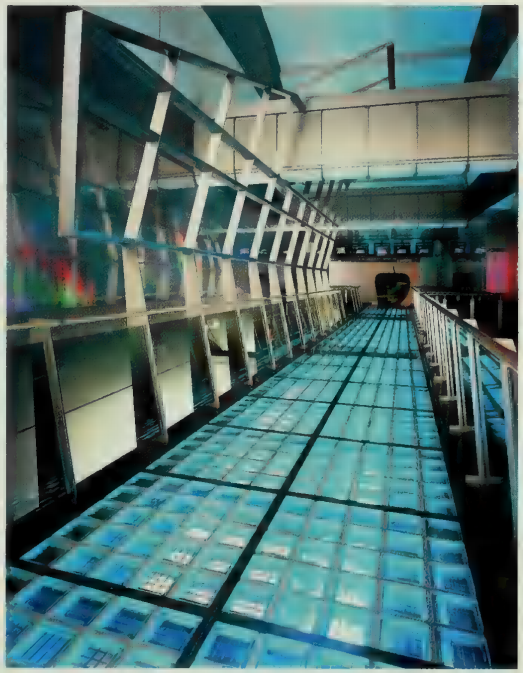
growing," asserts Gensler, "but because of client demands."

Staff up

Gensler's staff longevity backs these enduring relationships. The firm gives generous bonuses twice a year, plus continuing education and tuition reimbursements. "Our staff has the opportunity to build a body of knowledge about clients' buildings and culture. When you have a high turnover rate (as most firms do), you lose that. This is a distinct advantage for us."

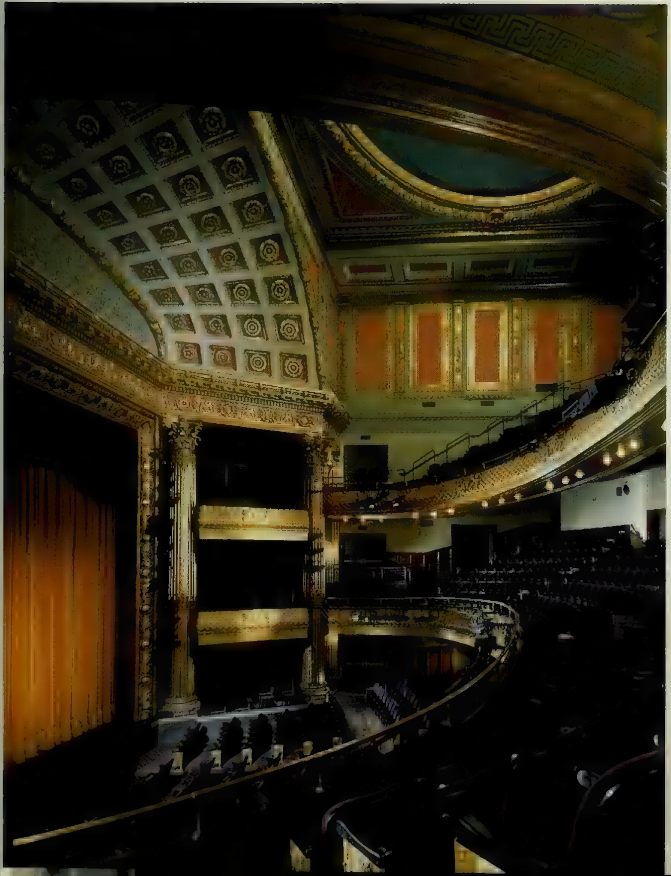
Departing from architecture's norms, Art Gensler believes such values are critical to a profession in flux. Knowledge in our field changes so rapidly, observes Friedrichs, that "continuing education must be part of any architectural career." The Gensler firm provides an industry model in its

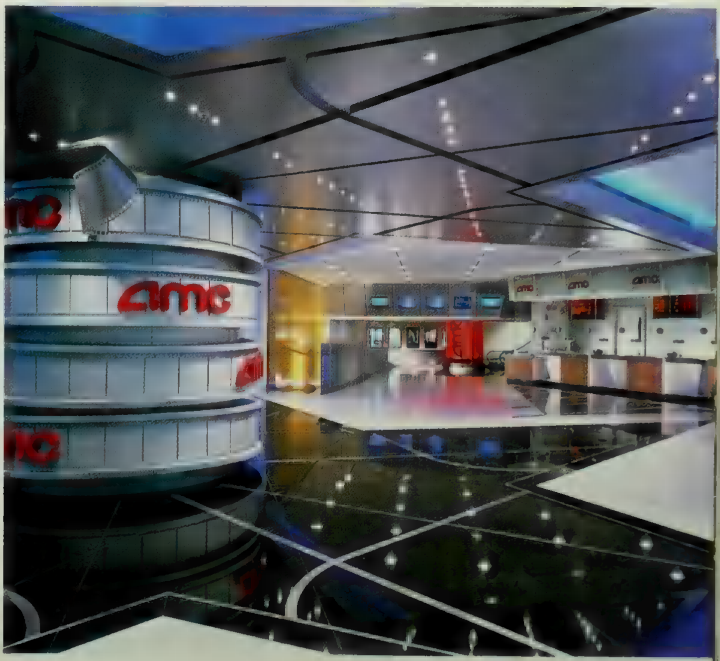
In 1999 Gensler's total worldwide fee billings were $196 million. In the same year, the firm's total gross worldwide revenue hit $264 million.



AMC Festival Walk
Hong Kong, 1999

American Conservatory Theater
San Francisco, 1996





AMC
Nakama, Japan, 1999

OSRAM

The brand new market leader in electronic ballasts

SYLVANIA

OSRAM SYLVANIA'S acquisition of Motorola's Lighting Division brings together a wealth of electronic **ballast technology** and innovative products unmatched in the industry. Blending the resources and people of both companies with the widely-heralded System Solution® approach originated by OSRAM SYLVANIA, creates one of the **broadest lines of quality lamp and ballast products** you'll find anywhere in the world. All marketed under the well-known SYLVANIA brand and backed by unparalleled customer service. This line of superior products and services will be available to you wherever and whenever needed. It is the beginning of an important partnership...with you. And there will be plenty more good things to come. Call 1-800-544-4828 or visit our website at www.sylvania.com.

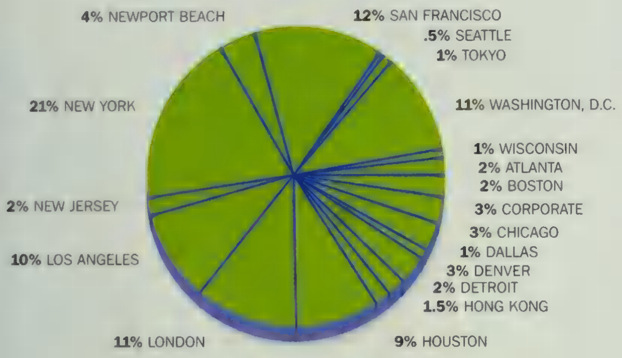
the system solution™

OSRAM
SYLVANIA

CIRCLE 123 ON INQUIRY CARD

Government

Having completed some 120 public projects, Gensler is one of five architectural firms recently selected to provide services to upgrade 280 million square feet, primarily lobby spaces, in federal buildings across the nation.



ALLOCATION OF GENSLER STAFF

approach to learning. Besides tuition reimbursement for approved classes, the firm offers an in-house educational program—part of what insiders dub "Gensler University." The practice has developed its so-called Leadership 2000 Knowledge Network, a collection of task forces that cover four categories: Design & Delivery Systems, Offices (one for each of the firm's 17 offices), Practice Areas (for specific building types), and Firmwide Shared Services (including communications, financial, and legal offerings).

Ultimately, the Gensler firm seems anomalous in the architectural profession—willing to do anything to satisfy its clients, living by strong relationships with no marketing department, and treating its employees as a prized resource to be nurtured. According to Friedrichs, "We believe a design is not great until it meets and the budget and satisfies the needs of all constituencies. We are a both/and culture." It is this unusual value system—far from the profession's norms—that prompted the AIA to award Gensler its highest honor. ■

Between 1965 and 1998, Gensler completed 204.5 million square feet of interior architectural design, 66 million square feet of interior renovation, 72 million square feet of architectural design, and 51.5 million square feet of renovation.

HUD Next Door
Washington, D.C., 1999

HUD Next Door
Washington, D.C., 1999

A duplicate key can come back to bite you.

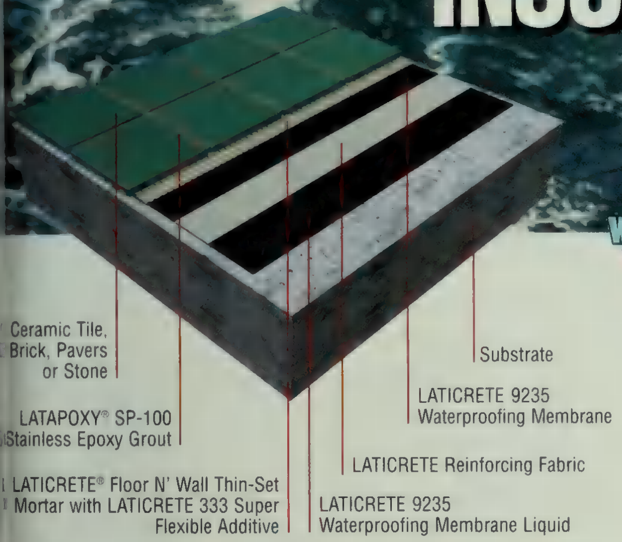
EVEREST™ Introducing a new patented key control system from the industry leader in life safety and security. Schlage's Everest™ family features a distinctive new key and includes a complete line of open and restricted keyways, allowing you to select the level of key control you desire. The Everest product line is protected by new utility patents to prevent the manufacture and distribution of aftermarket key blanks by anyone else but Schlage. A full range of Everest cylinders and locksets are available to retrofit into your existing door hardware or for new construction. Find out how Schlage can assist you in managing your key system to improve security. Call us at 1-800-847-1864 for more information.

INGERSOLL-RAND
ARCHITECTURAL HARDWARE
Ingersoll-Rand Architectural Hardware Group, Schlage Commercial Lock Division ©1999 Ingersoll-Rand

SCHLAGE
Gain control. Keep control.

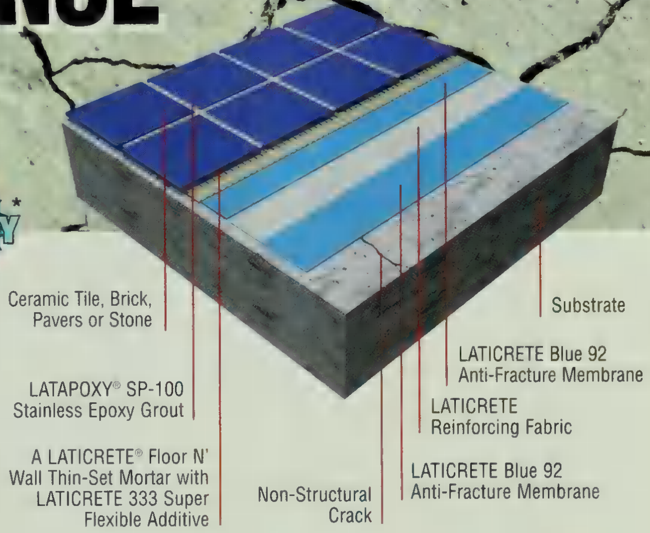
CIRCLE 81 ON INQUIRY CARD

Tile & Stone Waterproofing & Anti-Fracture INSURANCE



Ceramic Tile, Brick, Pavers or Stone
LATAPOXY® SP-100 Stainless Epoxy Grout
LATICRETE® Floor N' Wall Thin-Set Mortar with LATICRETE 333 Super Flexible Additive
LATICRETE 9235 Waterproofing Membrane Liquid
LATICRETE Reinforcing Fabric
LATICRETE 9235 Waterproofing Membrane
Substrate

HASSLE WARRANTY FREE*



Ceramic Tile, Brick, Pavers or Stone
LATAPOXY® SP-100 Stainless Epoxy Grout
A LATICRETE® Floor N' Wall Thin-Set Mortar with LATICRETE 333 Super Flexible Additive
Non-Structural Crack
LATICRETE Blue 92 Anti-Fracture Membrane
LATICRETE Reinforcing Fabric
LATICRETE Blue 92 Anti-Fracture Membrane
Substrate

LATICRETE® 9235 Waterproofing Membrane

"The Architects' Choice for RISK FREE Installations"

- Guaranteed not to leak or crack*
- Dual purpose – for waterproofing *and* anti-fracture applications
- IAPMO, ICBO approvals
- Meets rigid DIN standard for anti-fracture membranes
- Full fabric application
- *Extra Heavy-Duty* Floor Service Rating
- Approved for continuous submersion in pools and fountains

LATICRETE Blue 92 Anti-Fracture Membrane

"When you only need anti-fracture protection"

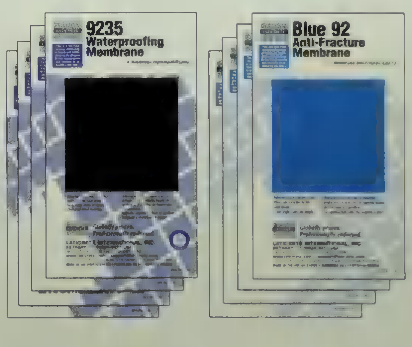
- Guaranteed against cracking*
- Easy to install liquid applies like paint
- Full fabric application
- Meets rigid DIN standard for anti-fracture membranes
- *Extra Heavy-Duty* Floor Service Rating

*See DS700.12 Hassle Free Lifetime Warranty for Additional Details.

Globally proven.
Professionally endorsed.

ATICRETE INTERNATIONAL, INC.
ATICRETE PARK NORTH • BETHANY, CT 06524-3423 USA
.: (203) 393-0010 ▪ (800) 243-4788
K: (203) 393-1684 • FAX ON DEMAND: (800) 359-3297
w.laticrete.com • support@laticrete.com

ICRETE MIDDLE EAST
.: (971) 4-286-2627 FAX: (971) 4-286-2123
ICRETE ASIA PACIFIC
.: (65) 262-4237 FAX: (65) 262-3701
ICRETE EUROPE
.: (39) 0585-856-159 FAX: (39) 0585-856-160
ICRETE LATIN AMERICA
.: (203) 393-0010, EXT. 218 FAX: (203) 393-1684



For an actual sample of these membranes absolutely FREE call 800-243-4788, Ext. 265.

Please specifiy 9235 or Blue 92 Swatch Card.

CIRCLE 82 ON INQUIRY CARD

© 2000 LATICRETE INTERNATIONAL, INC ▪ T.M. Reg. U.S. ▪ Foreign Pat. Office A-978 REV

It's gorgeous.
It's rugged.
It's what you asked for.

512 channels of stage lighting control
all the time, in every configuration

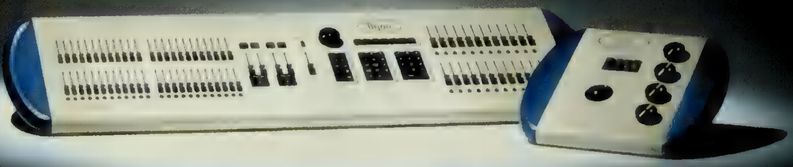
Operate with the push of a GO button

Multiple Two Scene/Single Scene configuration
available for simultaneous hands-on operation

Add Control Freak™ module for
precise control of intelligent devices

- Address up to 1024 DMX slots
- Two sets of Crossfaders for simultaneous cue sequences/stacks
- Two sets of GO & STOP/REVERSE buttons for automated ease
- 2,500 user programmable macros
- 50 effects with 100 steps each operable via SubMaster Handles
- 288 SubMaster
- 1,000 Cue capacity
- Driver card & output for SVGA color monitor
- 3.5" floppy disk drive
- Printer port
- Midi
- Alphanumeric labeling via plug-in computer keyboard
- Options include:
  Offline Editor
  Remote Video
  Handheld Remote
  Designers Remote
  Midi Show Control
  Moving Lights Outrigger
  Ethernet IEEE 802.3

The new Bijou™ memory console
with Control Freak™ console



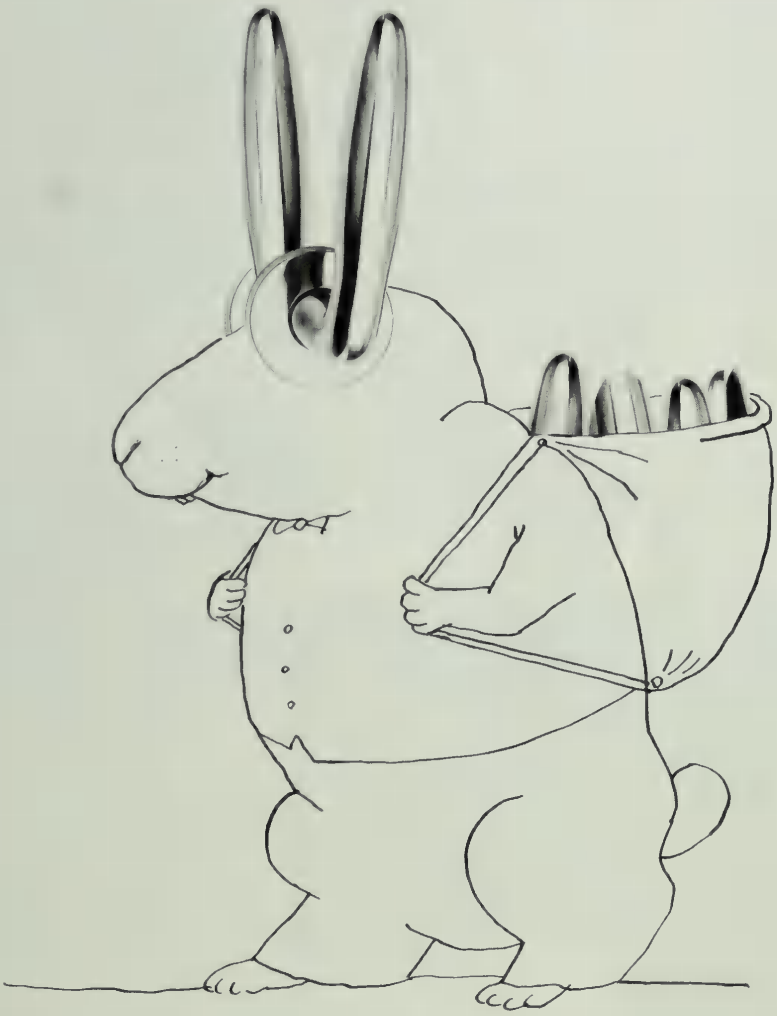
Electronics Diversified, Inc.

Lighting the way since 1967

800.547.2690 Fax 503.629.9877 www.edionline.com

CIRCLE 83 ON INQUIRY CARD

Delivering Fresh Ideas ...



With over 20 lever handle designs to choose from, in both stainless steel and aluminum, a full selection of American mortise locks, and a national network of qualified distributors, FSB is ready to deliver fresh ideas directly to your door. Call us for your complimentary FSB-USA Architectural Hardware Design Manual.

CIRCLE 84 ON INQUIRY CARD

FSB-USA | 55 Ferris Street Brooklyn, NY 11231 | Tel 718 625 1900 | Fax 718 625 1930 | www.fsb-usa.com

The WORLD MONUMENTS FUND

Saving the world's architectural heritage

By Mildred F. Schmertz, FAIA

When a 1963 fire gutted the Modernist Los Angeles home and studio Richard J. Neutra designed and constructed in 1932-33, the architect was 71 years old. His son and partner Dion took charge of its reconstruction, which was completed by 1966. Located in the city's Silver Lake district (known for its concentration of first rate 1925-1960 architecture), the house is considered to be one of the most elegant, precise, yet romantic contributions to the International Style by the transplanted Viennese master. The terraced wood-and-steel-framed glass-walled structure steps down in three stages toward the lake and reveals pure geometries of open and enclosed space.

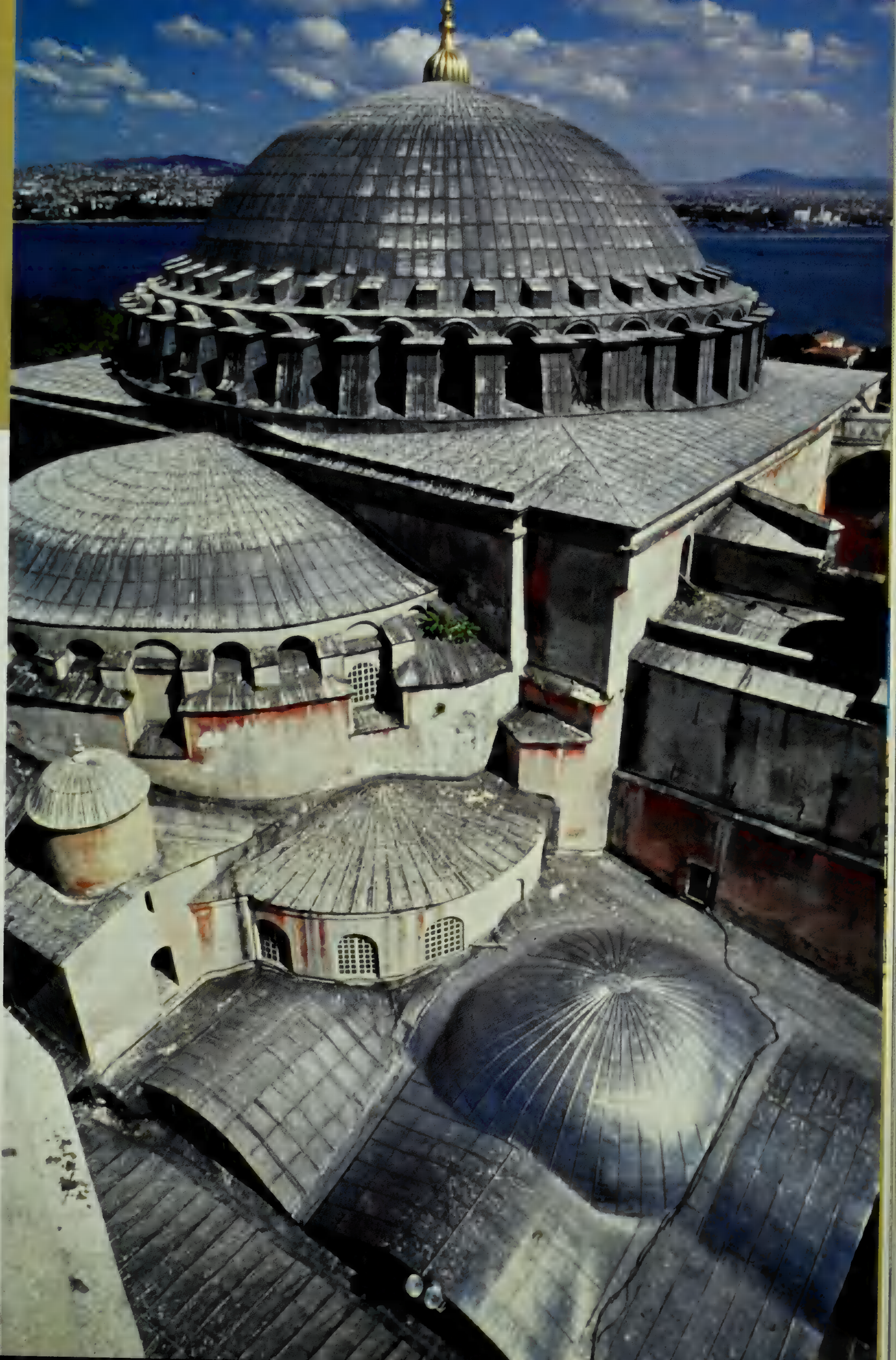
After the elder Neutra's death in 1970 and after his widow's in 1990, California State Polytechnic University at Pomona took over the house. Because of insufficient funds, no maintenance was performed until 1998 when a new roof was finally installed. Today, however, the current condition of the building remains dire. Termite and dryrot damage must be repaired, asbestos removed, doors and windows replaced, and electrical systems updated to reduce the risk of another fire. Dion Neutra, now 73 and living nearby, has again come to the rescue of his former family home. With the support of Cal Poly Pomona, and several Los Angeles preservation organizations, he recently brought the landmark house to the attention of the World Monuments Fund (WMF), which has placed it on this year's biennial World Monuments Watch list as an endangered site.

In the field of preservation, no single organization is more widely effective than the WMF, a private nonprofit organization dedicated to the conservation of architecture, cultural landscapes, and works of art worldwide. Founded in 1965 by retired U.S. Army officer Colonel James Gray, today the New York-based organization is headed by art historian Marilyn Perry, with affiliates in France, Italy, Portugal, Spain, and the United Kingdom. To date, the fund

Richard Neutra's home and studio, Los Angeles, (top left); Viipuri Library, Vyborg, Russia (top right); National Art Schools, Cubanacan, Havana, Cuba (bottom).

Architect and journalist Mildred F. Schmertz is a former editor-in-chief of ARCHITECTURAL RECORD. She writes regularly for Architectural Digest.

Hagia Sophia in Istanbul (right), built 532-563, a Byzantine Cathedral transformed into a mosque, suffers from water penetration and uncertain structural conditions. Roof repairs, structural monitoring, and the conservation of the dome mosaics is now under way.



Ancient Pompeii possesses paved streets, structures, wall paintings, and household furnishings of ancient Rome. Pompeii suffers inadequate maintenance and conservation, and requires better tourist management.

has undertaken more than 165 preservation projects in 51 countries, coming to the aid of significant sites that have suffered from natural disasters, population explosion, war, commercial development, or neglect. "We are the only private sector response that attempts worldwide to recognize that architectural and cultural heritage matters in the larger sense," Perry says. "We are challenging people to understand that saving something important, in a country they may never visit or a place they may go to only once, should still matter to them."

Membership in the fund is open to all donors of $50 per year or more. In addition to serving as members, architects volunteer to bring endangered sites to the fund's attention, as professionals participate on selection and advisory panels and are engaged by the fund, its partner institutions, or local governments and preservation groups as consultants for chosen sites.

In 1995, a $5 million gift from American Express launched a new program, the World Monuments Watch, to bring threatened cultural heritage sites around the globe to local and international attention. The program embodies two interrelated strategies—the identification of vulnerable sites, followed by efforts on many levels to save them. In 1996 the Watch first issued its biennial list of 100 most endangered sites selected by an independent nine-member panel of experts. Hundreds of nominations were sent by government ministries of culture, United States embassies, the national committees of the International Council on Monuments and Sites (ICOMOS), and international and local preservation groups. Project proposals also came from architects like Dion Neutra, historians, mayors, community activists, and citizens wishing to preserve the quality of their habitats. Chosen from 350 nominations, the sites on the current year 2000 list comprise the most extensive global reach yet.

Of the 100 sites on this list, 38 had been selected before, having shown insufficient progress in a prior round. A few have been through all three rounds—Pompeii, for example. "Physically, not enough is being done yet," says WMF president and art historian Bonnie Burnham. To date the Fund has invested almost $1 million in Pompeii. Burnham continues: "Italy's government agency that manages the site has been able to raise significantly more money, in part because of the listing and planning work we did in the first stages. The local authority was able to show the national government that it needs to keep all the revenue generated through tourism in order to maintain the site. But still, physically, not enough is being done yet."

Other Watch locations from prior lists appear again because they are being moved toward UNESCO World Heritage designation, which the fund wishes to encourage because it assures a higher level of government protection. It is hoped that the UNESCO designation will soon come to the 12th-century Jaisalmer Fort in Rajasthan, India. Inadequate drainage threatens the finely carved architecture of palaces, squares, and temples located within the only still-functioning fortress city on the Indian subcontinent. Water absorbed by building foundations has begun to cause scores of structures to collapse. But Jaisalmer is also adversely affected by changing climactic conditions and the absence of a sustained maintenance program. "It is crucial," Burnham notes, "that the momentum for restoration continue, especially since an unprecedented amount of rain last August caused three bastions of the fortress walls to collapse. In spite of recognition and grants from the Fund, American Express and Indian State sources, the city's situation is worse than ever."

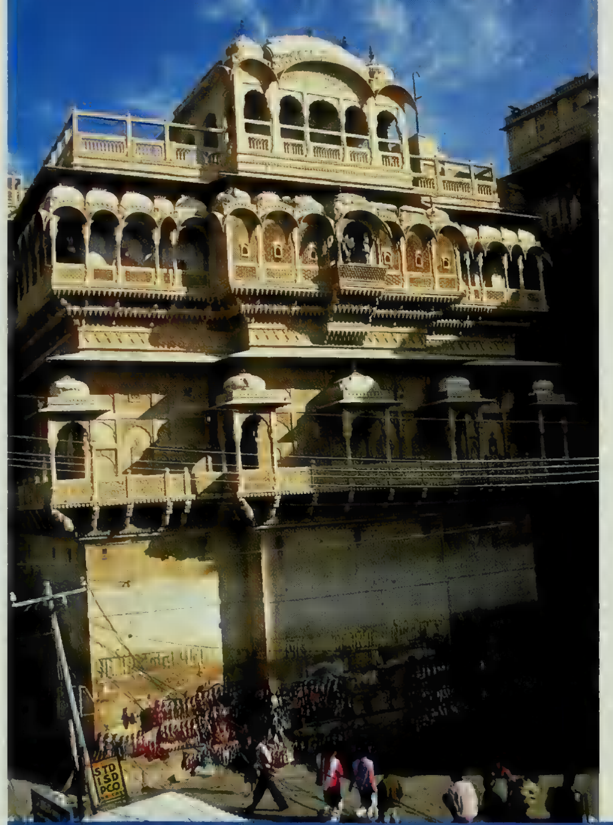
The WMF applies preservation practices and technology toward the development of the listed sites. It supports on-site training in the building crafts for newcomers to the preservation field. It initiates, where appropriate, field surveys, historic research, and preliminary planning and design charettes and also contributes financial aid to help cover the costs of repair and reconstruction at selected sites.

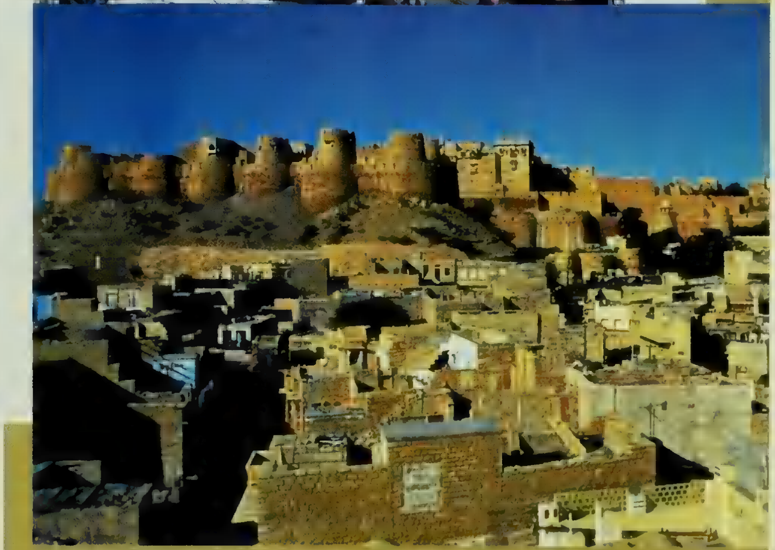
In Istanbul, $200,000 donated by American Express triggered a $1 million grant from the Turkish government for two new restoration campaigns at Hagia Sophia, the great former Byzantine cathedral that became an Ottoman mosque and was finally converted to a museum in 1935. Because areas of the lead roof had cracked, causing water damage to roofing members, frescoes, and mosaics, the great monument was listed in 1996 and 1998 as endangered. Subsequent restoration of the roof surface and structure created a new level of local expertise, vice-president for programs John Stubbs reports: "Our support of the campaign at Hagia Sophia has led to a very sensible approach to roof repair and documentation of the building's fabric. These procedures were developed only after a financial commitment had been made." Now that appropriate methods have been established, they may be repeated again and again. Stubbs contends that there is enough roof repair work to be done in Istanbul to justify a special training course: "Teams of specialists—hundreds of people—could be kept busy for decades."

SAVING SOMETHING IN A COUNTRY YOU MAY NEVER HAVE THE CHANCE TO VISIT SHOULD STILL MATTER.

While some selected sites are revered or respected by descendants of the people who created them, others just as strongly rooted in community history are forgotten, abandoned, or eroded by looting, illegal development, and tourism. Nominated sites actually selected for the Watch list reflect the pluralistic views of today's historic preservationists. None make the cut simply for being famous. Attention is paid to lesser known sites in addition to places that are traditionally recognized as historically and aesthetically significant like religious buildings, palaces, and ancient ruins. The Watch lists the commercial, civic, and industrial sites that fall outside the traditional canon of art history.

For example, all three lists have included the Tour and Taxis transport hub in Brussels constructed between 1897 and 1907. It is one of the world's great early 20th-century transportation com-





The 12th-century Jaisalmer Fort in Rajasthan is India's only still-functioning fortress city (above), notable for its intricately decorated palaces. Many buildings and three wall bastions have collapsed because of water erosion. Funds must be raised to save the bastions.

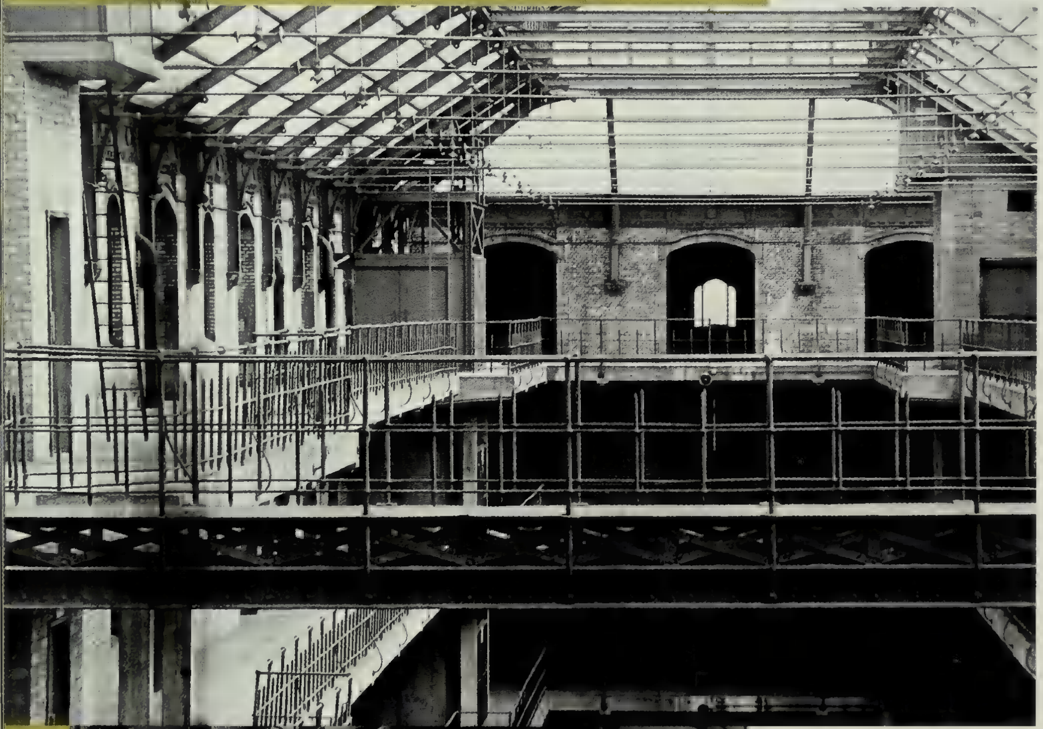
plexes—virtually a city within a city. Inspired by the Flemish Renaissance vernacular style, the warehouses and related structures embody that era's inventive uses of cast-iron, reinforced concrete, steel, and glass. With the formation of the European Community, customs and storage practices are changing, rendering much of the facility obsolete. Because developers plan to destroy two of the most important buildings and eventually tear down the rest—WMF continues to advocate a more appropriate reuse scheme.

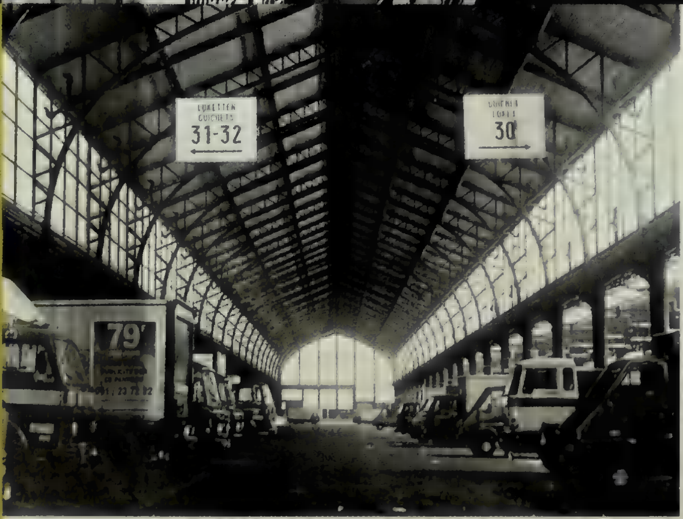
Some buildings listed are grand in scale and ambition, others modest. The architects of Saint Pierre Cathedral in Beauvais, France aspired to create the world's tallest Gothic vaulted space, but they didn't quite know how. The choir, begun in 1225 and finished in 1272, suffered the collapse in 1284 of the vaults of its rectangular bays down to the clerestory level, while the apse remained intact. The builders persevered, however, and by the middle of the 14th-century the rebuilding of the choir was completed to an interior height of 158 feet. The transept was begun in 1500 and completed 50 years later, while an open-work spire that soared above the crossing to a height of 500-feet fell in 1573 because it was unstayed on the west by the absence of a nave. The nave was never built. Today the cathedral is threatened by critical structural flaws originating in the 13th century, and others more recent. The foundation is settling and the flying buttresses oscillate from gale force winds coming off the English Channel. In the 1950s, to strengthen the buttresses, crucial iron ties were mistakenly removed, which increased oscillation. A temporary tie-and-brace system installed in the last decade may have made the cathedral too rigid. Structural solutions continue to be proposed, but today there is still no consensus on how to proceed. The Watch listing may help bring about the necessary decisions and actions to keep Saint Pierre from collapsing again.

Paanajarvi Village in Kemi Province of the Republic of Karelia (on the Finnish-Russian frontier), established in the 14th-century, is the last original, intact collection of little houses in the Finnish rural vernacular folk tradition. The Russians intend to build a dam and power plant that would flood the village and the last undisturbed stretch of the Kemi River. WMF has joined Karelian and Finnish cultural foundations in an appeal for international political pressure to halt the dam and to fund restoration. For a start, the Kress Foundation European Preservation Program made a grant to support the training by local masters and Finnish experts of seven local carpenters in vernacular wooden structure preservation, and the renewal of the simple dwellings has begun.

Though all of the listed sites face challenges, many require swift repairs to prevent total disintegration. Restoration must be technologically, financially, and politically feasible. According to Burnham,

Tour and Taxis, a transport hub in Brussels, consists of warehouses and related structures that were at the time new uses of cast-iron, reinforced concrete, steel and glass. Developers are about to replace two buildings with a concert complex, and other facilities.





Some of mankind's grandest ideas are as old as time. Others have yet to be created. For those, there is United States Aluminum, an industry leader in quality entrances, storefronts, curtain walls and Raco Interior OfficeFronts.™ We give the world's top designers beauty, durability and design flexibility with sustainable aluminum. Then we stand behind our products with the kind of dependable service that is as classic s the designs themselves. For more than four decades, United States Aluminum's commitment and resources have been as unlimited as your imagination. So when you're ready o create civilization's next architectural wonder, make United States Aluminum part of your team. Call us today at -800-627-6440, or visit our website at www.usalum.com.

CIRCLE 85 ON INQUIRY CARD

United States
ALUMINUM
COMMERCIAL PRODUCTS GROUP

A world of possibilities

the basic criterion is viability, "whether the nominators are going to be able to do what is needed, can command the audience they need to command, and work with or against the local government."

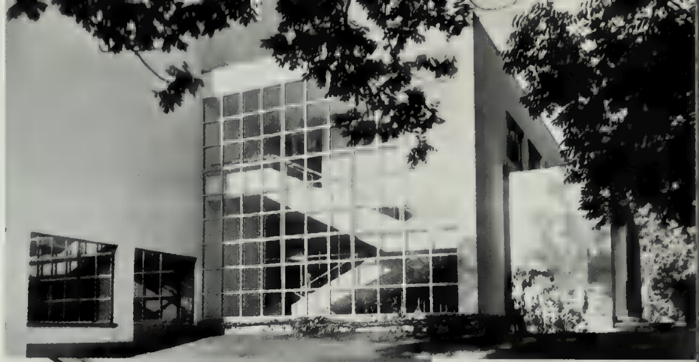
Government support on some level must be established for a nomination to be listed. One of the most controversial sites to go on the 2000 list was the National Arts School built under Fidel Castro near Havana, in Cubanacan, Cuba. In the early 1960s the architects Ricardo Porro, Roberto Gottardi, and Vittorio Garati devised a series of domed buildings of native brick and terra cotta to house schools of modern dance, plastic arts, dramatic arts, music, and ballet. Only the schools of modern dance and plastic arts were completed; both are still in use while the other facilities remain unfinished. Chronic poor maintenance and ill-conceived additions have greatly compromised the complex, as well as the usual water leaks, faulty drainage, structural defects, and vandalism. Because the nomination came from outside preservation constituencies, the Watch sought official endorsement from Cuban authorities. "Asking the government officials for their approval," Burnham relates, "we revealed them as advocates for the site, when outsiders had formerly seen them as being in opposition." Support came through just in time for the school complex to be listed in 2000.

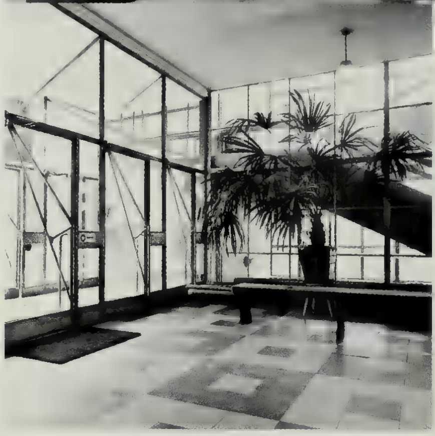
Burnham believes that many of the sites on the current Watch list will be helped much more readily once people begin to recognize them as unrecognized opportunities. One such site is the Seventh Regiment Armory (1877-81), a New York City landmark on the Upper East Side of Manhattan listed for the first time this year. Designed by architect Charles W. Clinton, with interiors by Louis Comfort Tiffany and Stanford White, the building possesses lavish and elegant public reception rooms and a huge drill shed that remains one of the largest unobstructed interiors in the city. Today the red-brick structure serves as offices for the New York National Guard, an arena for arts and antiques shows, and a homeless shelter. But water leaks have damaged significant interiors, and some are closed because of falling plaster. Burnham notes, "The conservancy group that nominated the Armory is trying to muster public awareness and political support, and one way to do that is to encourage people to realize that there might be many good uses for this building once it is rescued."

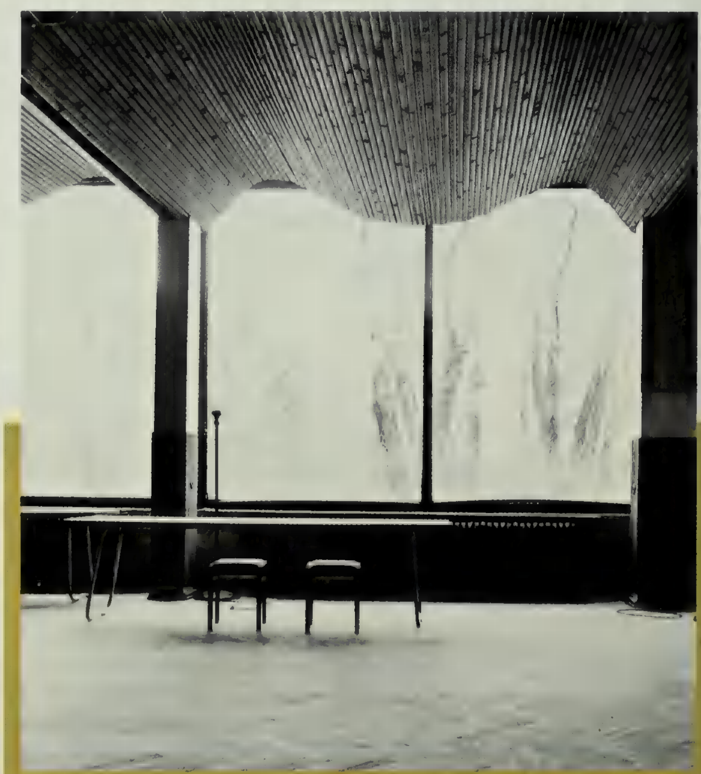
RESTORATION MUST BE FINANCIALLY, TECHNOLOGICALLY, AND POLITICALLY FEASIBLE.

Burnham also wants to develop a larger constituency among architects. WMF could not function without dedicated practitioners who team with preservationists, but it seems that few other architects will mount the barricades—even to save threatened works by great 20th-century masters. "We'd like to see more awareness and real involvement from the architectural profession as well as the general public," urges Stubbs. Burnham hopes that the AIA will find a way to help the Watch rescue contemporary master works in crisis. "Conservation of 20th-century buildings," Stubbs says, "is often exotic—involving plastics, synthetic sealants, and unusual alloys."

Richard Neutra's home and studio is but one of several endangered 20th-century buildings on the 2000 list. Also included is the Viipuri City Library (1927-35) in Vyborg, Russia, by Alvar Aalto, a celebrated work of modernism that ranks with his Paimio

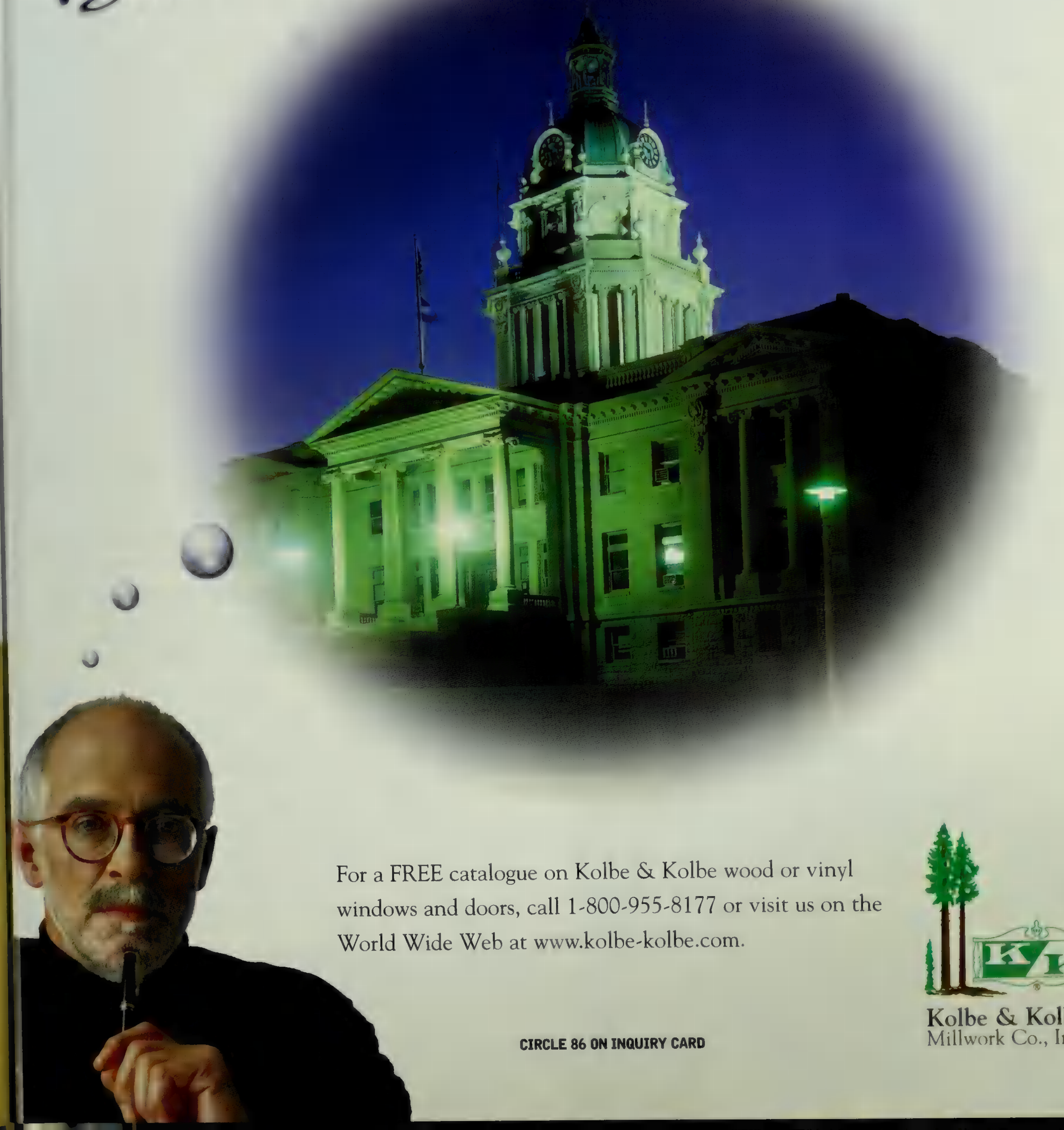






These photos only suggest the extent of World War II damage and subsequent neglect inflicted upon the Viipuri Library in Vyborg, Russia, one of Alvar Aalto's finest buildings.

Because the Best Windows Are Built Out of Your Imagination



For a FREE catalogue on Kolbe & Kolbe wood or vinyl windows and doors, call 1-800-955-8177 or visit us on the World Wide Web at www.kolbe-kolbe.com.

CIRCLE 86 ON INQUIRY CARD

Kolbe & Kolbe
Millwork Co., Inc.

Tuberculosis Sanatorium (1929-33) as one of his two functionalist masterpieces. Originally eight years in design, the library as finally constructed reveals characteristics that mark Aalto's stylistic transition first from classicism to functionalism and then to a playful and personal style that shaped his work for the remaining four decades of his career. Because Aalto is a national hero in Finland, where his work is revered, the library should have been carefully maintained and cherished. Unfortunately, Finland was invaded by the Soviet Union early in World War II. Viipuri was ceded by the Finns to the Soviets in 1940 and renamed Vyborg. By then the library was badly damaged by the war, and later abandoned for more than 10 years. Subsequent repairs were inadequate or ill-conceived. Exterior brick walls and leaking roofs must be repaired, and nearly all doors and windows replaced with compatible materials. Two forms that Aalto invented and used throughout his career—the gridded field of round skylights and the undulating wooden ceiling—made their debut at Vyborg and must be replaced. Few original exterior or interior finishes and details remain, and all the Aalto-designed furniture is gone. A complete restoration is called for, but the ongoing economic crisis in Russia has prevented funds from being allocated and help is essential.

The difficulties of saving and restoring the library at Vyborg are no less daunting than those faced by others on the 2000 list. Such well-known places as the Egyptian Valley of the Kings, near Luxor; Machu Picchu, in Peru; Teotihuacan near Mexico City; and the Petra Archaeological Site in Jordan, are endangered by rapidly increasing numbers of poorly monitored and managed tourists. Some popular destinations are threatened by the addition of inappropriate facilities—proposed cable cars for Machu Picchu, new commercial construction at Teotihuacan, and tourist-related accommodations for Petra. The Mnajdra Prehistoric Temples in Malta, consisting of megaliths older than Egypt's great pyramids, have stood for more than 5,000 years. Now many of them are collapsing, thanks to the erosion of surfaces by rain, salt air, vibrations from nearby quarries, and too many uncontrolled visitors.

"WE'D LIKE TO SEE MORE AWARENESS AND REAL INVOLVEMENT FROM THE ARCHITECTURAL PROFESSION . . ."

The Watch believes tourism to be essential to the survival of most places on the current list, 95 of which receive too few visitors in relation to their potential as cultural sites. "Planning for tourism," Burnham says, "represents the future. If tourism is indeed going to double in the next decade, people will need more real places to go. Otherwise you wind up with surrogates and simulations. The fact is, conservation of cultural resources is a very good way to invest money." According to Stubbs, "When you translate restoring buildings into money that could be made by architects, builders, property owners, and business, the opportunities are tremendous. Preservation of important sites produces dramatic changes, not only in physical

The wooden buildings of Paanajarvi Village in Russia (above) are being restored by trained local carpenters.

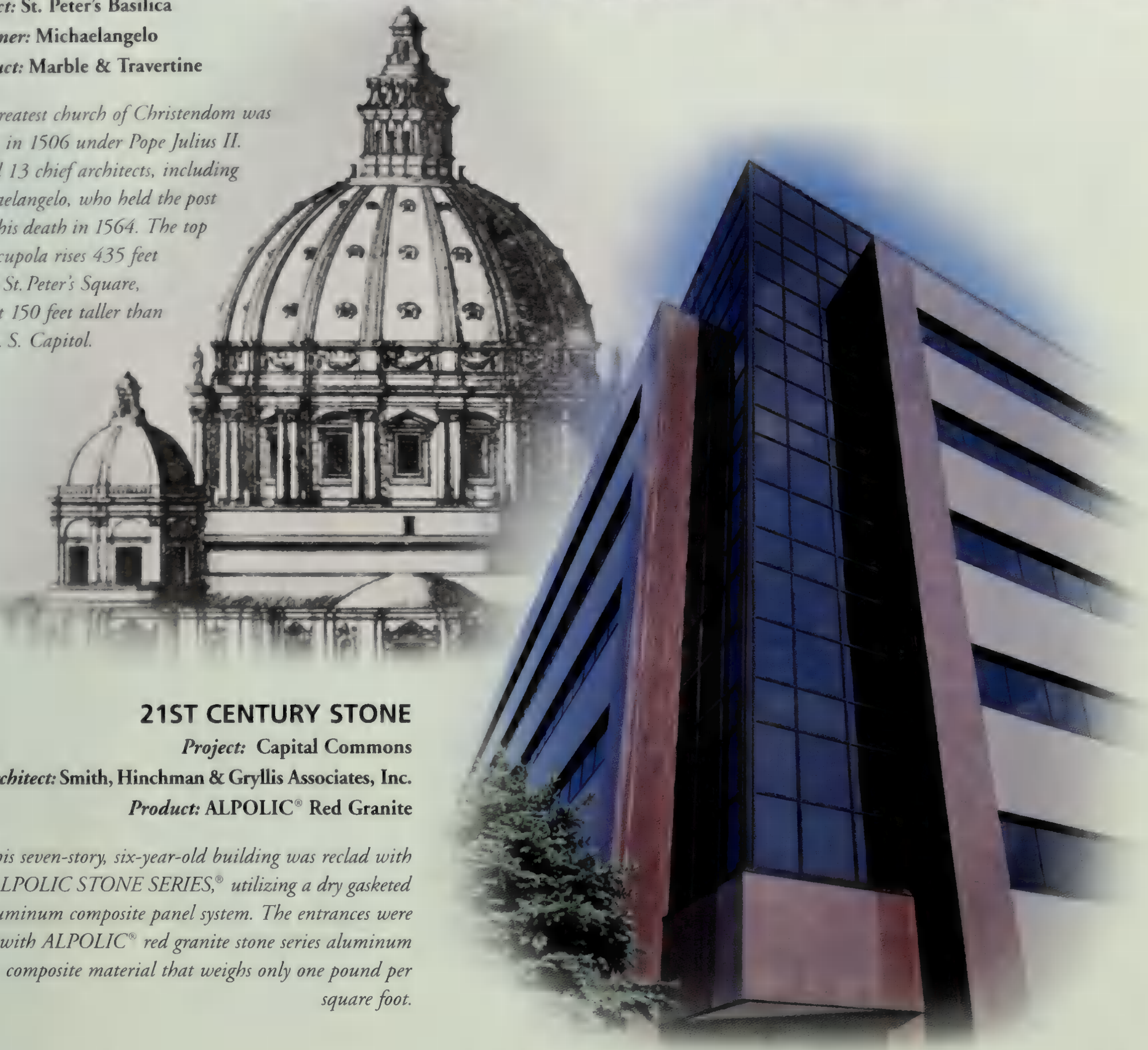
The 2,000-year-old Petra Archaeological Site in Jordan (right) is endangered by flash floods and seismic activity, harmful to the facades of the buildings in the rocks.

Machu Picchu, Peru, (below) built in the 15th-century, is imperiled by a proposed cable car that would lead to the quadrupling of tourists.

YOU DON'T HAVE TO BE FAMOUS TO CREATE A MASTERPIECE

16th CENTURY STONE
Project: St. Peter's Basilica
Designer: Michaelangelo
Product: Marble & Travertine

The greatest church of Christendom was begun in 1506 under Pope Julius II. It had 13 chief architects, including Michaelangelo, who held the post until his death in 1564. The top of its cupola rises 435 feet above St. Peter's Square, almost 150 feet taller than the U. S. Capitol.



21ST CENTURY STONE
Project: Capital Commons
Architect: Smith, Hinchman & Gryllis Associates, Inc.
Product: ALPOLIC® Red Granite

This seven-story, six-year-old building was reclad with ALPOLIC STONE SERIES,® utilizing a dry gasketed aluminum composite panel system. The entrances were clad with ALPOLIC® red granite stone series aluminum composite material that weighs only one pound per square foot.

Like Michaelangelo's creations in marble, we have taken aluminum composite materials to new heights. In fact, we're the leader in offering new and innovative products that can help you realize your visionary designs. ALPOLIC® was the first to embrace PPG/MEGAFLON,® a high-performance fluorocarbon, as our primary paint finish. We were the first to offer a virtually endless palette of colors limited only by a designer's vision. Now we've broadened our line to offer you such unique products as our ALPOLIC STONE SERIES,® our ALPOLIC A-LOOK® reflective mirror surfaces and our ALPOLIC ISD® interior products that simulate wood and stone finishes. When you have a vision for the 21st Century, create your masterpiece with ALPOLIC products.

ALPOLIC®
Helping You Create Today's Masterpieces

For more information, call 1-800-422-7270
or email us at www.alpolic.com

©2000 Mitsubishi Chemical America, Inc

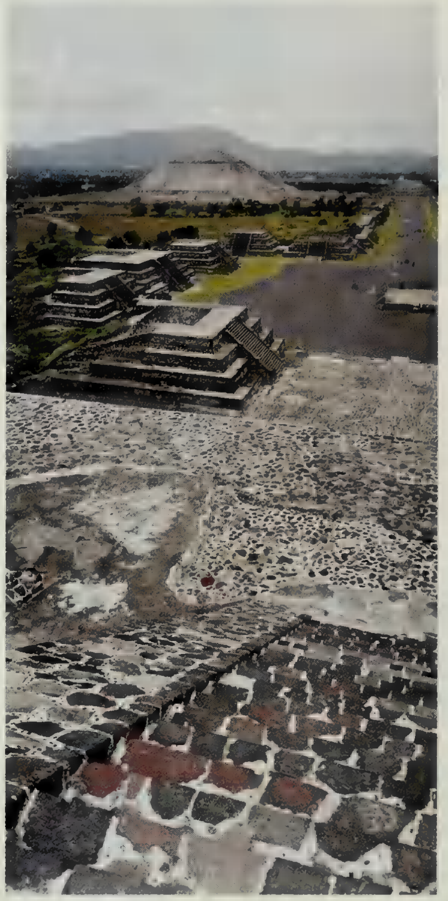
CIRCLE 87 ON INQUIRY CARD

appearance but in the economic condition of the surroundings." Burnham notes, "The great challenge is to demonstrate that the resources needed to make a dramatic improvement worldwide are very small, compared to the potential economic benefits. The reasons buildings fail is that they fall out of use. Their environments have failed in some way." Burnham adds, "We have not yet been able to put together enough vivid demonstrations of how we can change the situation for the better."

Success in the preservation field tends to be achieved slowly and incrementally, but in the four years since the Watch began, much has been achieved with significant financial help. WMF vice-president for development and external affairs Laurie Beckelman points out that "the American Express contribution is absolutely critical for the work that we do, because of the leverage it has given us. We now have an additional five-year commitment of $5 million." A challenge-grant program established by American philanthropist Robert W. Wilson in 1997 matches contributions made by people and organizations from countries other than the United States. "We ourselves have raised around $7 million," Burnham reports.

"IF TOURISM IS GOING TO DOUBLE IN THE NEXT DECADE, PEOPLE WILL NEED MORE REAL PLACES TO GO,"

Stubbs is optimistic. "The part of our work that develops new friends and new institutional partners is growing. We learn about innovative methods used by others, and the information that comes to us through the nomination process is astonishing, both in quantity and quality. I think the future couldn't be brighter. We just need time and resources and to work hard." ■



The Teotihuacan Archaeological Site (left) is Mexico's most visited site and a national symbol, yet government support is inadequate.

The Mnajdra Prehistoric Temples in Malta (below) are the oldest surviving free-standing stone structures in the world. Rain, visitors, and vibrations from nearby quarries have inflicted damage.

Tile of Spain

Autographed With Excellence

Throughout history, artists like Spain's Salvador Dalí have added new dimensions to their unique interpretations with the creative use of ceramic tile. Like Dalí, the tile manufacturers of Spain are regarded as masters of their craft.

For centuries, they have combined a history of craftsmanship and quality with forward-thinking technologies. Today, they continue to set industry standards and develop the techniques and products of the future, from handmade to high-tech.

No other ceramic tile offers the prestige of the finest European products at such attractive price points. Tile from Spain delivers quality, service, and a stylish array of elegant designs and rich textures, priced to enhance profitability.

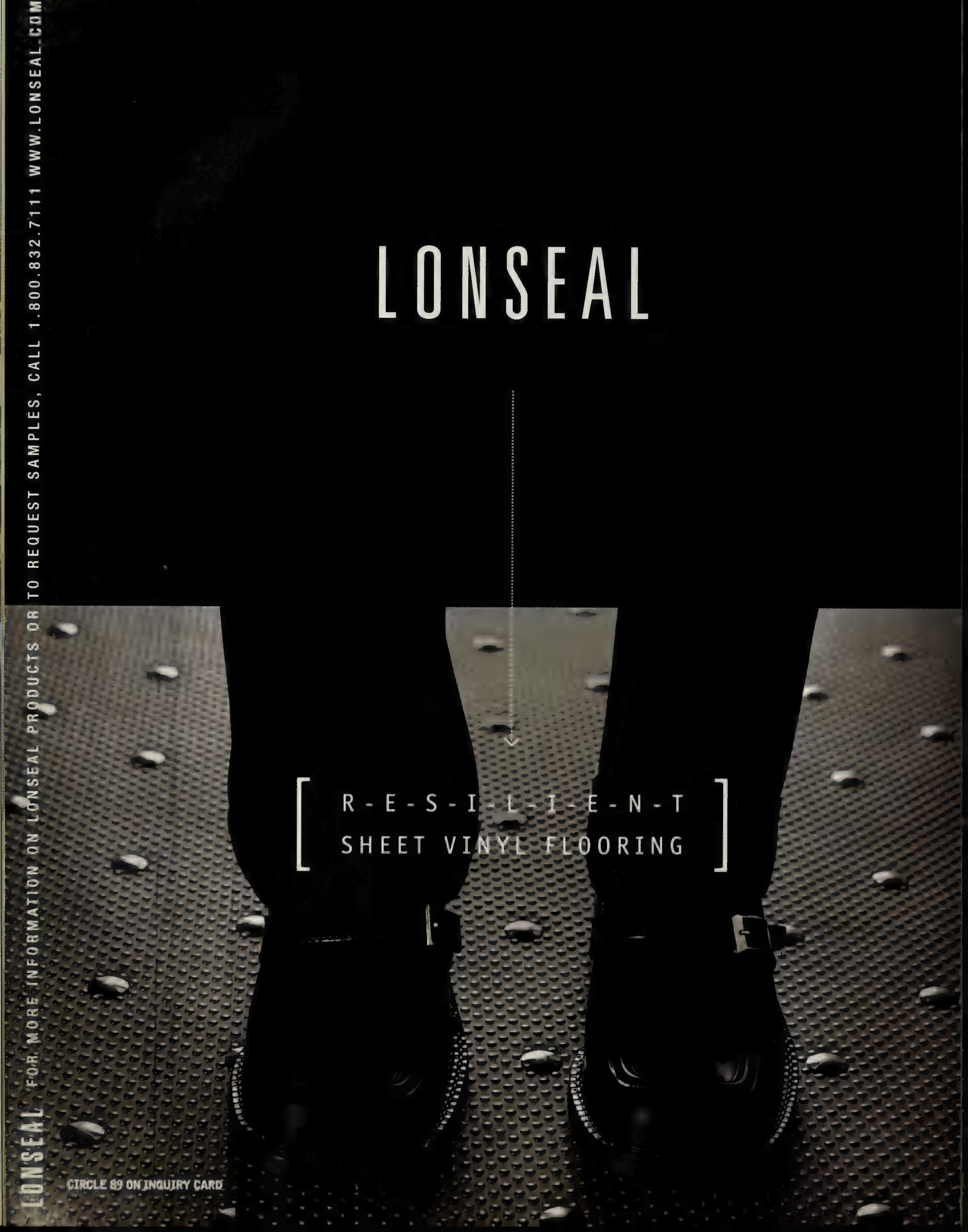
When it comes to floor and wallcovering options, the mark of excellence to look for is "Made in Spain".

For more information:
Tile of Spain Center, 2655 Le Jeune Road,
Suite 1114, Coral Gables, FL 33134
Phone: 305.446.4387; Fax: 305.446.2602
E-mail: buzon.oficial@miami.ofcomes.mcx.es
Web Site: www.tilespain.com

Image of ceramic tile by Salvador Dalí courtesy of The [illegible] Dalí Museum, St. Petersburg, Florida.

TILE OF SPAIN

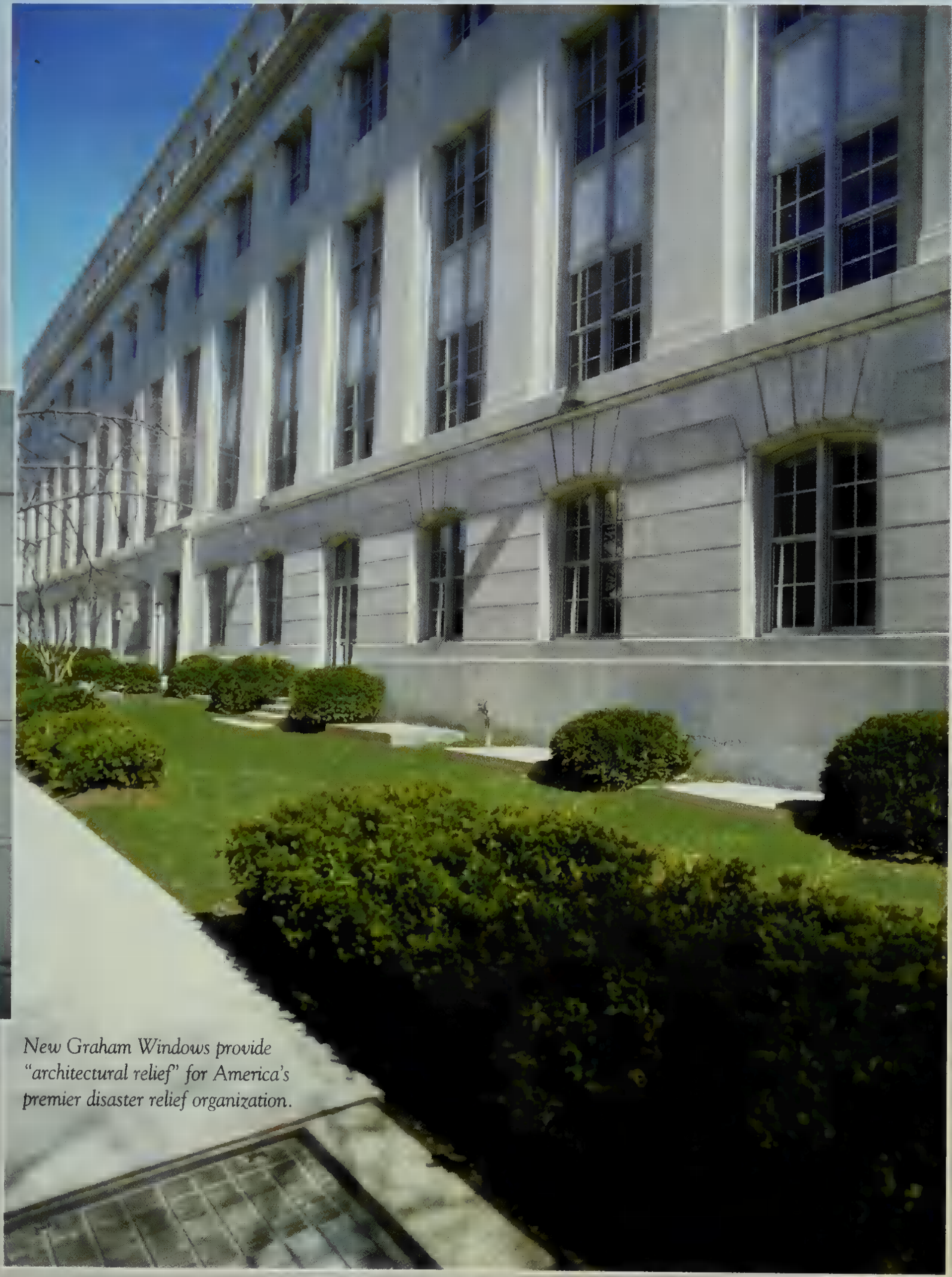
CIRCLE 88 ON INQUIRY CARD



LONSEAL FOR MORE INFORMATION ON LONSEAL PRODUCTS OR TO REQUEST SAMPLES, CALL 1.800.832.7111 WWW.LONSEAL.COM

CIRCLE 89 ON INQUIRY CARD

Architectural Relief Mission



New Graham Windows provide "architectural relief" for America's premier disaster relief organization.

ten, an important historical window
ılacement project provides Graham
chitectural Products the opportunity to
et the high expectations of prestigious
titutions like The American Red Cross.
strive to exceed them.The 18th
eet Red Cross Building is a shining
ample of neo-classical architecture with
Ionic decorative influence, prevalent
the late 1920's and 30's.
Located near the White House on Red
oss Square, national headquarters for
American Red Cross, the building's
ade is of stunning white Vermont Marble.
hile the other two buildings on Red Cross Square originally
tured windows of wood, the 18th Street Building windows
re among the first made of anodized aluminum that once
stened in the sun. But, through the years, the metal exterior
face had become pitted and lost its original luster through
tural oxidation.

Graham Architectural Products was chosen to replace the original metal windows as part of a general renovation which restored the building's original shining face. 352 fixed Series 1050 high-performance windows, including single, double-wide and springline shapes (on the ground floor elevation) were installed. The bright, clear-anodized aluminum finish, along with the windows' applied muntins and William Penn panning, all faithfully replicate the original architecture.

Credits: Windows by Graham Architectural Products. Architecture/Interior by RTKL Associates, Inc., Washington, DC. Project Manager- Steven D. Cook.

Graham
Architectural Products
800-755-6274
Fax: 800-366-5097
www.GrahamArch.com
CIRCLE 90 ON INQUIRY CARD

Aluminum Commercial Windows • Curtain Wall • Storefront/Entry Systems

Before you design one of these.
Consult one of these.

DOOR
CDC
ARCHITECTURAL HARDWARE CONSULTANT
AHC
JOHN DOE, AHC/CDC
No. 12345
VALID THRU
JAN. 01, 2001
REGISTERED CERTIFIED DOOR CONSULTANT
REGISTERED ARCHITECTURAL HARDWARE CONSULTANT

To be certified as an Architectural Hardware Consultant (AHC) or Certified Door Consultant (CDC), individuals must dedicate many years to the architectural openings industry. Their unparalleled knowledge and expertise with the complexities of related building codes, standards and the full spectrum of applications for architectural doors, hardware and access control products makes your investment in a certified consultant one of your best specifying values.

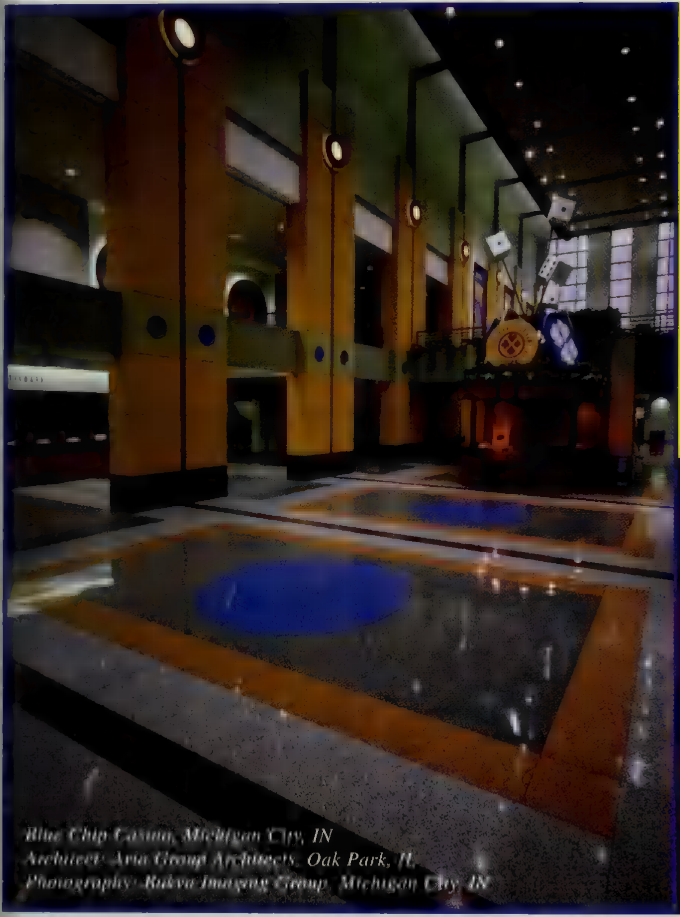
Use of the official seal by AHCs and CDCs signifies the consultant has committed to a standard of ongoing professional education. Look for these seals on door and hardware specifications, schedules, shop drawings and letters. Demand and get the best from a DHI certified consultant.

DHI

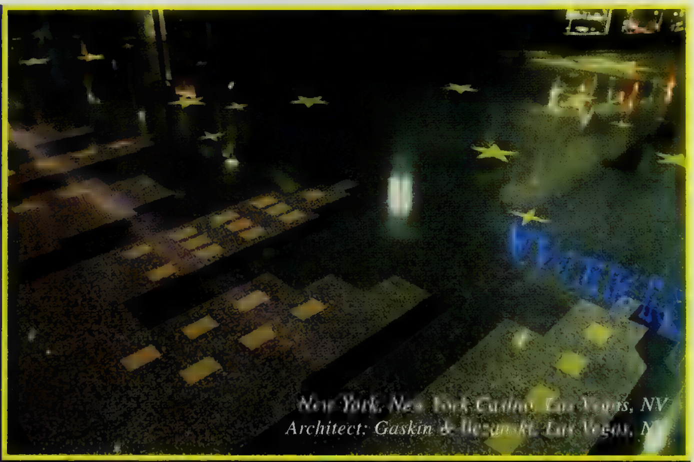
For a copy of a brochure listing consultants in your area, contact the Door and Hardware Institute, 14150 Newbrook Dr., Suite 200, Chantilly, VA 20151-2223; 703/222-2010; fax: 703/222-2410; e-mail: techdept@dhi.org; or access the information through the Institute's website: www.dhi.org.
See us at AIA in Booth #1714

CIRCLE 91 ON INQUIRY CARD

What other floorcovering can offer this degree of design flexibility and durability all in one?



Blue Chip Casino, Michigan City, IN
Architect: Aria Group Architects, Oak Park, IL
Photography: Rukva Imaging Group, Michigan City, IN



New York, New York Casino, Las Vegas, NV
Architect: Gaskin & Bezanski, Las Vegas, NV

Motown Cafe at New York, New York Casino, Las Vegas, NV
Architect: Haverson Architecture & Design, Greenwich, CT
Photography: Opulence Studios, Las Vegas, NV

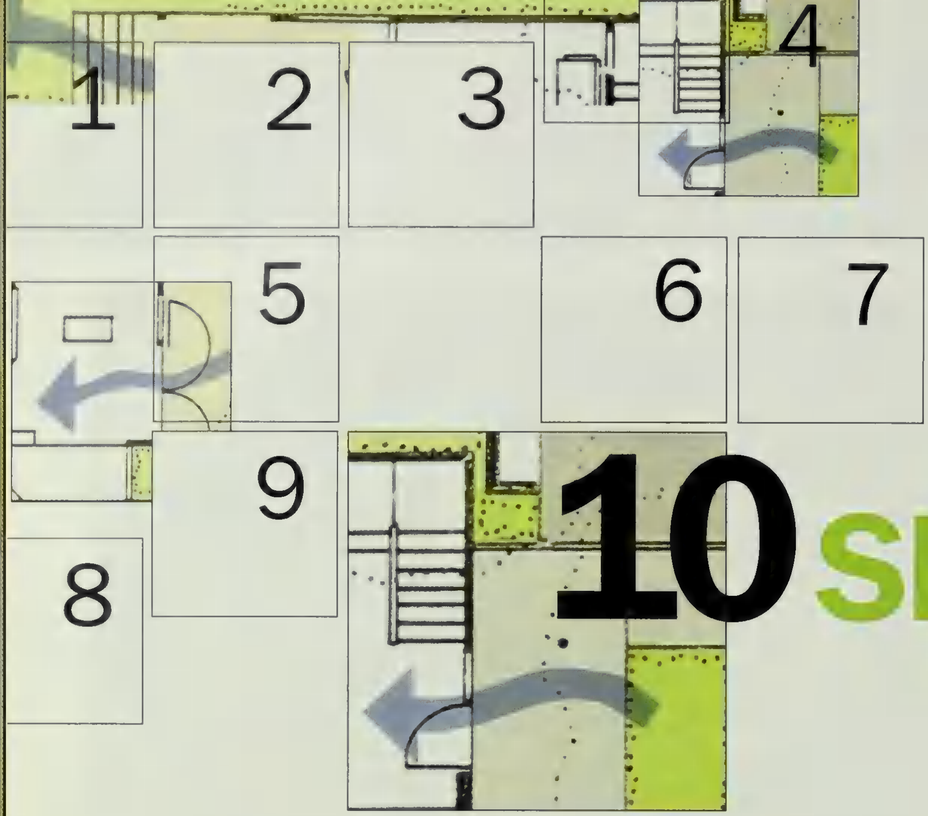
Unlimited Design Flexibility

Unsurpassed Durability

The use of terrazzo flooring literally goes back hundreds of years. Why has such an art form lasted so long? Because of its unsurpassed beauty and durability. The beauty of terrazzo is timeless. The durability outdistances most other flooring systems. And the value of terrazzo in terms of both performance and economy is untouched!

National Terrazzo & Mosaic Association
#1-800-323-9736
WWW.NTMA.COM

CIRCLE 92 ON INQUIRY CARD



10 Shades of

Critic Peter Buchanan argues that **green design** has too often been thought an add-on. A new exhibit asks viewers to think of environmental sustainability as a synthesis of technology, poetics, and place.

Green buildings are the inevitable future of architecture. Conventional buildings consume and contaminate vast amounts of water, and are responsible for much of the greenhouse-gas emissions that cause global warming—the most tangibly urgent environmental problem threatening our whole way of life.

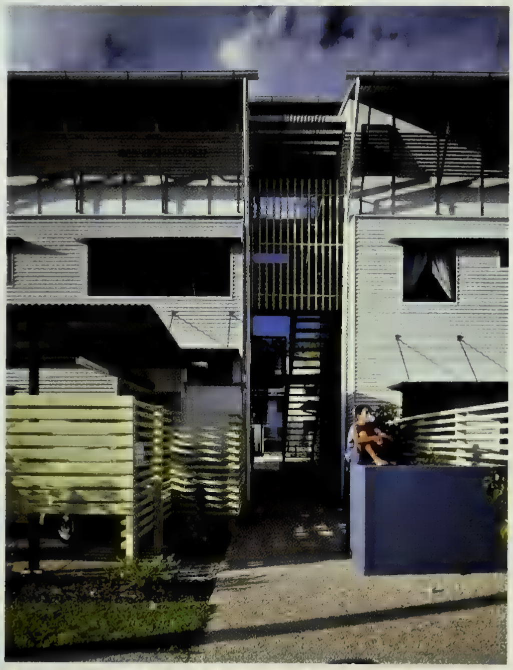
Whether drawing on long-proven traditional strategies or innovative new techniques, green design everywhere, but especially in Europe, is moving to a new, more holistic scale. Buildings already exist that are sparing in their use of water and energy, and even export energy harvested from sun and wind. Such buildings can also be more profitable than conventional

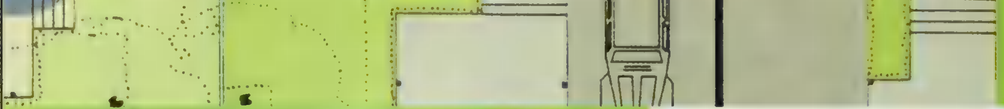
James S. Russell adapted material supplied by Peter Buchanan, a London-based architect, writer, and critic, who curated the show.

WWW *Go to* ***Green Architect*** *at* ***www.architecturalrecord.com*** *for more*

Project: *Cotton Tree Housing, Maroochydore, Queensland, Australia*
Architect: *Clare Designs*

Green



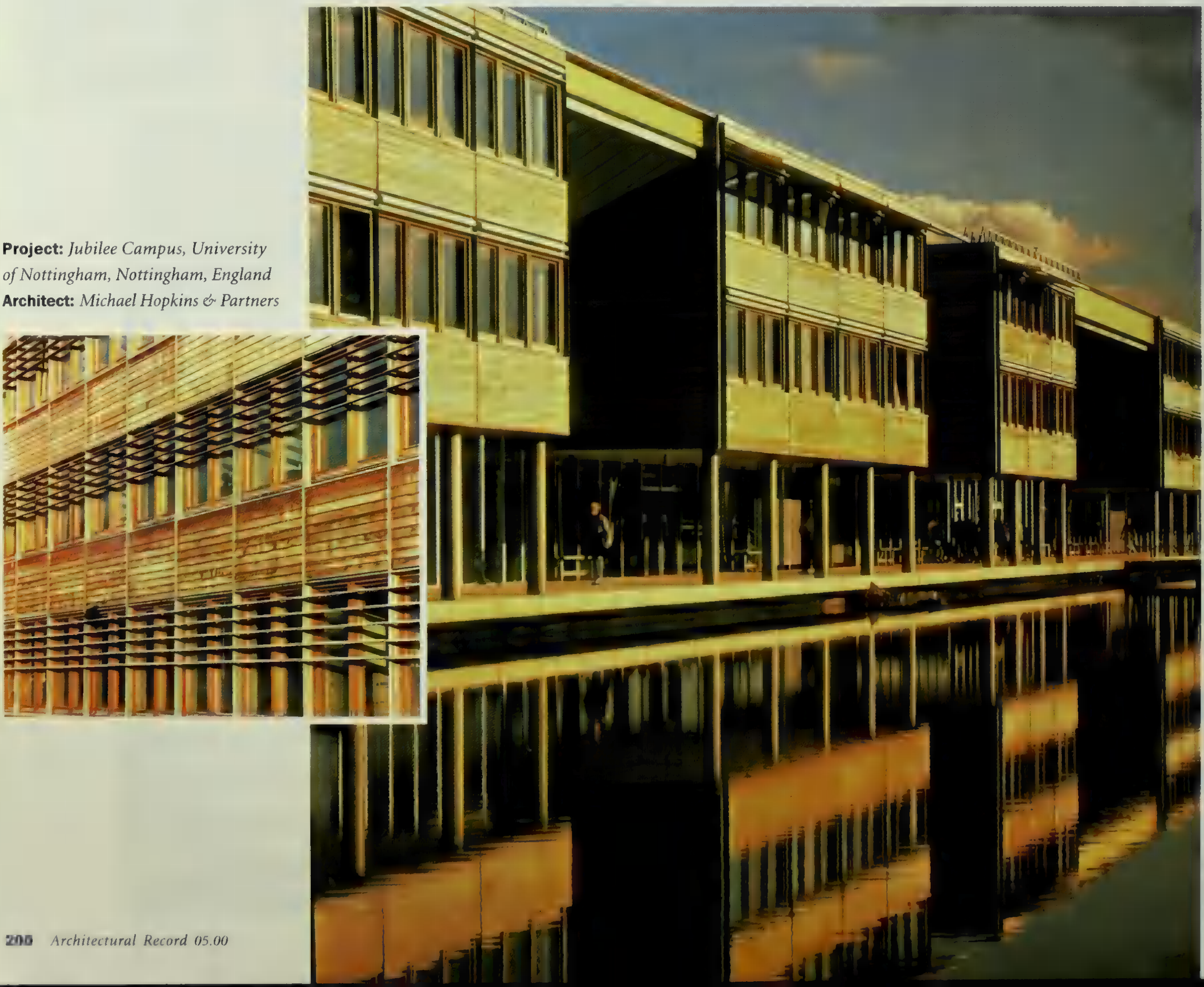


buildings, largely because their occupants prefer them. Though such buildings may include unconventional elements, their acceptance by users accords with major changes sweeping through the culture.

Americans and Europeans alike have wondered why, to date, there has been so little of this kind of innovation in America—a nation that was once a fount of architectural progress. What seems to be missing from American work is the synthetic impulse one sees in the most insightful international projects: the poetics of architecture brought together with the most sophisticated engineering and technology. The Architectural League of New York has brought some of the best recent work to America in an exhibit. *Ten Shades of Green*, which opened in New York's Urban Center in March, shows nine European buildings and four North American houses (grouped together as a 10th "shade").

The title also refers to 10 themes that need to be considered to create a fully green or sustainable built environment. Some are familiar; others are too infrequently considered green in America. The show's twin strands are intended to help professionals and the ordinary public engage with the designs and the ideas informing them, and also to better appreciate the rich way they have synthesized numerous tactics in even the most understated of structures. (The exhibit closes May 13, but is expected to travel to additional cities.)

These themes and buildings were chosen to dispel lingering misconceptions. They are not meant as prototypes suitable for universal deployment, nor must every green building subscribe to every item on the list—some of the projects do a few things very well. The Minnaert building uses just one element, rainwater, as a means to absorb heat generated by the building's dense array of computers. The Götz headquarters cleverly exploits the thermally moderating qualities of a double curtain wall and a shaded atrium. Others, such as Nottingham University's Jubilee Campus, unite an impressive number of strategies: A new lake and band of trees modulate climatic extremes; cowls atop



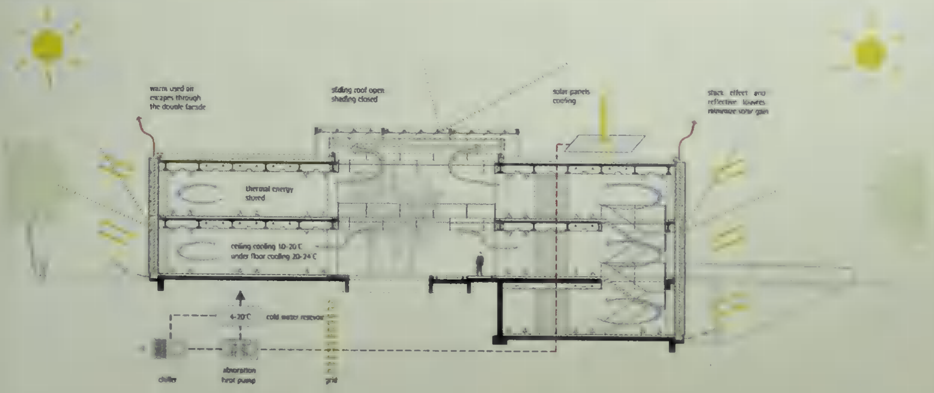
Project: *Jubilee Campus, University of Nottingham, Nottingham, England*
Architect: *Michael Hopkins & Partners*

stair towers were shaped to create negative pressure to draw in prevailing winds for natural ventilation; atrium spaces serve as casual meeting places while thermally buffering classrooms.

Among the reasons the exhibited projects have been successful is that they do not look at green design purely as an exercise in diminished energy consumption and pollution. Nor do the solutions lie even primarily in the electrical or mechanical realms. These architects don't see specifying low-emissivity windows, non-polluting paints, and low-flow toilets as the limit of their influence. Consider Commerzbank, which embodies numerous green technologies [January 1998, page 68]. The skygardens offer appealing casual meeting places. The vistas across its atriums subtly reinforce solidarity to co-workers on other floors in ways a conventional tower never could. In other words, the 10 themes represent a nexus of interrelated social, cultural, psychological, economic, and even poetic dimensions that transcend the product-oriented add-on approach.

Project: *Götz Headquarters, Wurzburg, Germany*
Architect: *Webler + Geisslers*

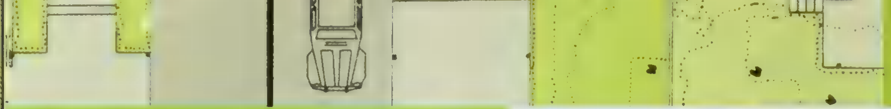
Summer day


warm used air escapes through the double facade
sliding roof open shading closed
solar panels cooling
stack effect and reflective louvres minimize solar gain
thermal energy stored
ceiling cooling 10-20°C under floor cooling 20-24°C
4-20°C
cold water reservoir
chiller
absorption heat pump
grid

Ten Green Themes

Buildings designed to use as little energy as possible and minimal or no fossil fuel are **low energy/high performance.** The biggest energy consumer is artificial lighting; next is air-conditioning, particularly the cooling cycle. Whatever energy is required is drawn as much as possible from ambient sources. **Replenishable sources** avoid overtaxing the earth's resources by harvesting energy from sun and wind, waves and gravity, and using materials from renewable sources such as sustainably managed forests, or virtually inexhaustible ones such as mud, clay and sand. **Recycling** today means reusing entire buildings and assemblies, not just making use of reprocessed industrial waste. New buildings can be designed to facilitate recycling through easy disassembly of components. With fresh water among the world's most threatened resources, capturing rainwater to irrigate plants or flush toilets will soon become a necessity everywhere, along with purifying "grey" water through reedbeds. **Embodied energy** takes into account the energy required to extract, manufacture, transport, and assemble materials and components. The greater use of wood in European architecture recognizes that its extraction, fabrication, transport, and assembly require the lowest energy output. (Aluminum requires 126 times the energy to produce.)

By designing buildings to be easily adaptable to new uses, architects conserve the energy embodied in their construction and increase the returns on initial investment, which is why **long life, loose fit** is an ecologically appropriate strategy. Architectural character can survive the vicissitudes of time. **Total life cycle costing** is an essential part of the



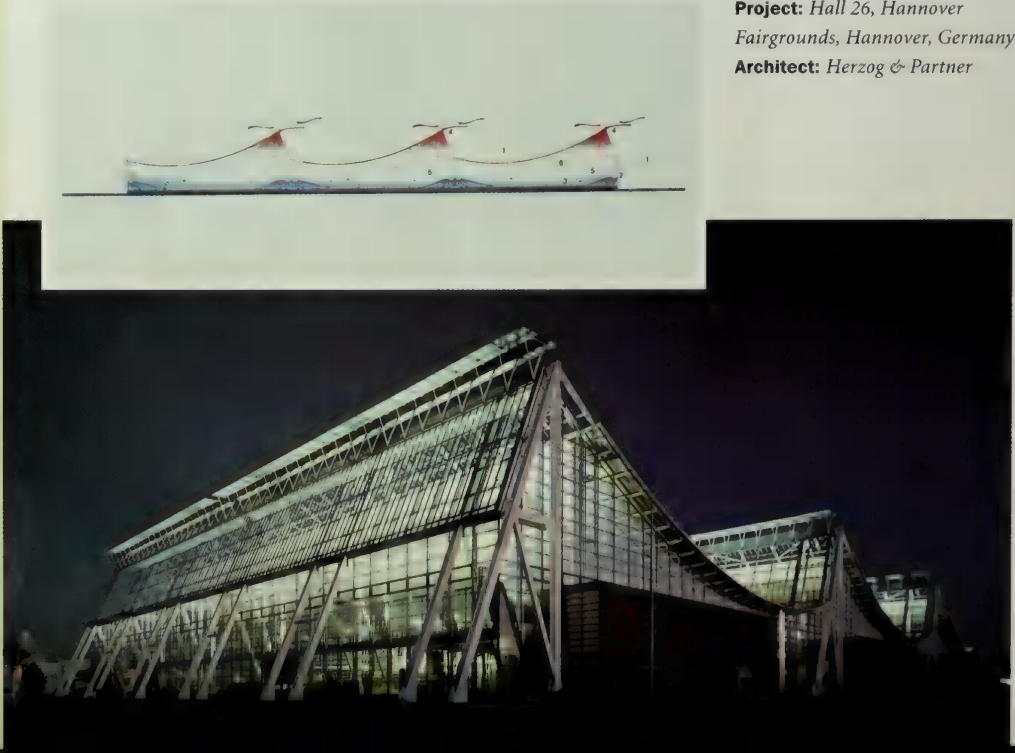
Project: *Minnaert Building, Utrecht, the Netherlands*
Architect: *Neutelings Riedijk*

Green design influences the whole form of a building and is one of its main generators from the first moments of design. As a corollary, green design is no constraint on creativity, but rather a stimulus to more novel and relevant designs. Green design is not incompatible with architectural excellence. Despite its all-glass roof and fully-glazed west elevation, the Beyeler Foundation Museum [May 1998, page 160] is exceptionally energy efficient. Europe's leading architects, including Renzo Piano, Norman Foster, and Michael Hopkins, are also among its best exponents of green design. Soon no building will be considered first-rate if it is not also green.

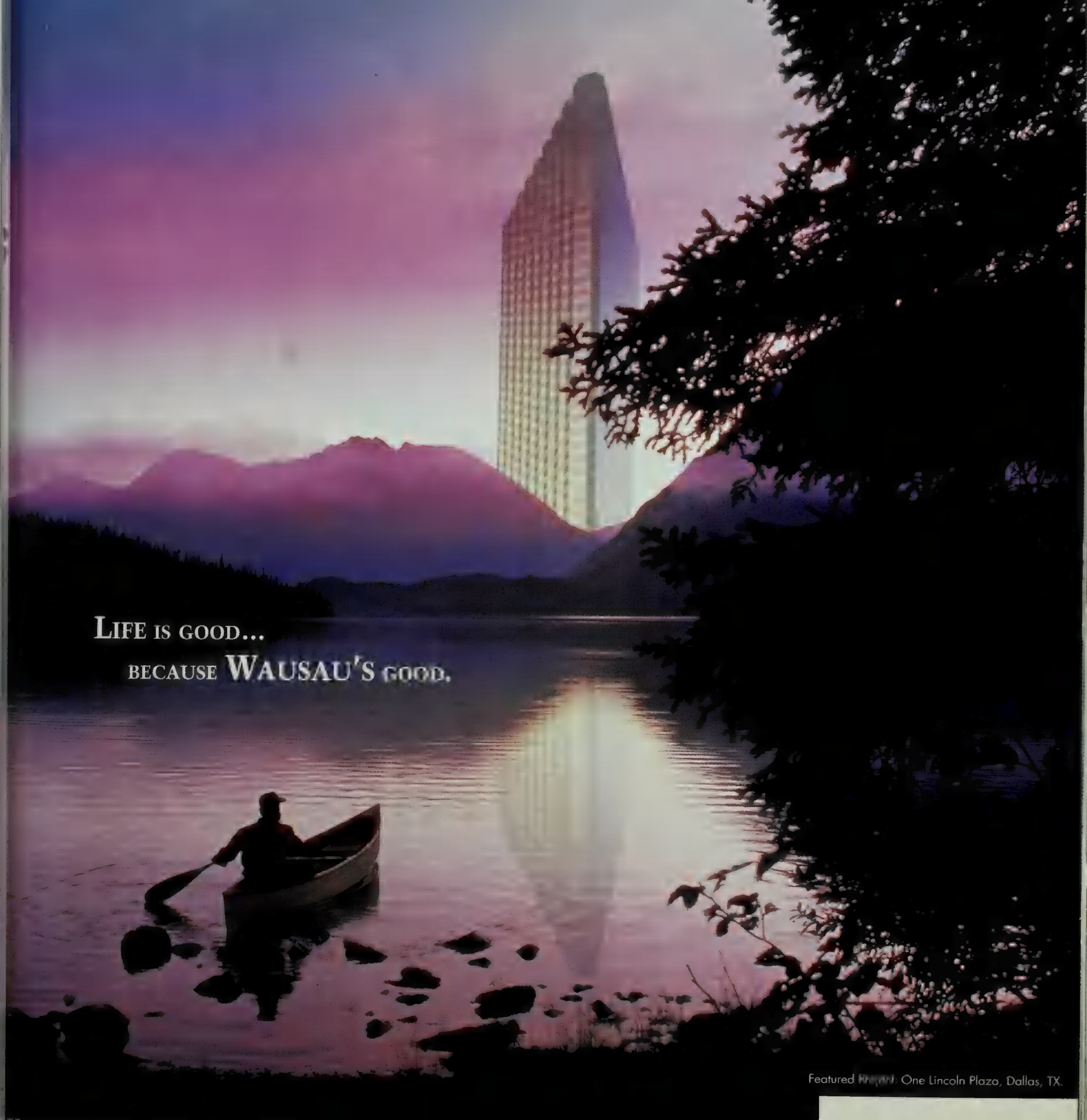
As one of the *10 Shades* themes asserts, green buildings cannot be designed in the abstract but are shaped by their reciprocal interactions with all aspects of a place, including its history and traditions as well as the microclimate and ambient energies that impact upon it. This is the strength of the Australian Cotton Tree Housing and the best North American work, whether it be by Lake/Flato in Cotulla, Texas; Fernau & Harman in coastal Marin County, California; Rick Joy, in arid Tucson; or Brian Mackay-Lyons in chilly Nova Scotia [April 2000, page 108]. For larger, less traditional building types, design tends to rely on meticulous surveys of all aspects of the setting (such as ecology, microclimate, and

holistic thinking that makes sustainable buildings successful financially and evokes pride among owners and users alike. Of course, part of the life-cycle cost of a building is whether its useful life ends in 15 years or in 50. A building made of sturdy, appealing materials, with ample light and views, will find new uses. Even if a green building can't adapt to future circumstances, its recyclable components will retain value even as the structure is demolished. A true life-cycle analysis will take into account such social costs and benefits, the ecological impact of the materials it uses, and the recyclability of its components, for example.

Achieving sustainability will also involve new ways of arranging human settlement. Energy-conservation virtue means little if a building is erected miles beyond the reach of public transport. Consideration of **access and urban context** is part of what makes a building green. Building owners too often fear that **health and happiness** will not be reflected in the bottom line. The best green buildings are pleasant and healthy places for people. A



Project: *Hall 26, Hannover Fairgrounds, Hannover, Germany*
Architect: *Herzog & Partner*



Featured Project: One Lincoln Plaza, Dallas, TX.

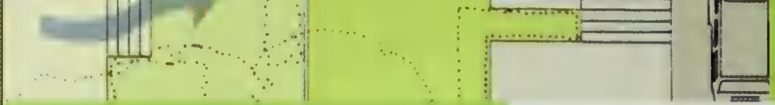
VE HAVE A CALMING EFFECT.

rojects just seem to go smoother
vith Wausau Window and Wall
ystems. From our pre-bid con-
ultation, through engineering,
nanufacture and installation,
our Wausau customer service
eam keeps everything on course.

And our industry-leading 10-year
warranty on material and
workmanship adds an
extra measure of serenity.
Contact us today. We know
these waters.
Life is good...because Wausau's good.

WAUSAU
WINDOW AND WALL
SYSTEMS

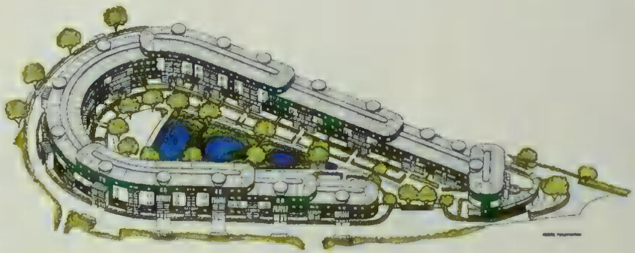
1.877.678.2983
www.wausauwindow.com
CIRCLE 93 ON INQUIRY CARD



Project: *Beyeler Foundation Museum, Basel, Switzerland*
Architect: *Renzo Piano Building Workshop*

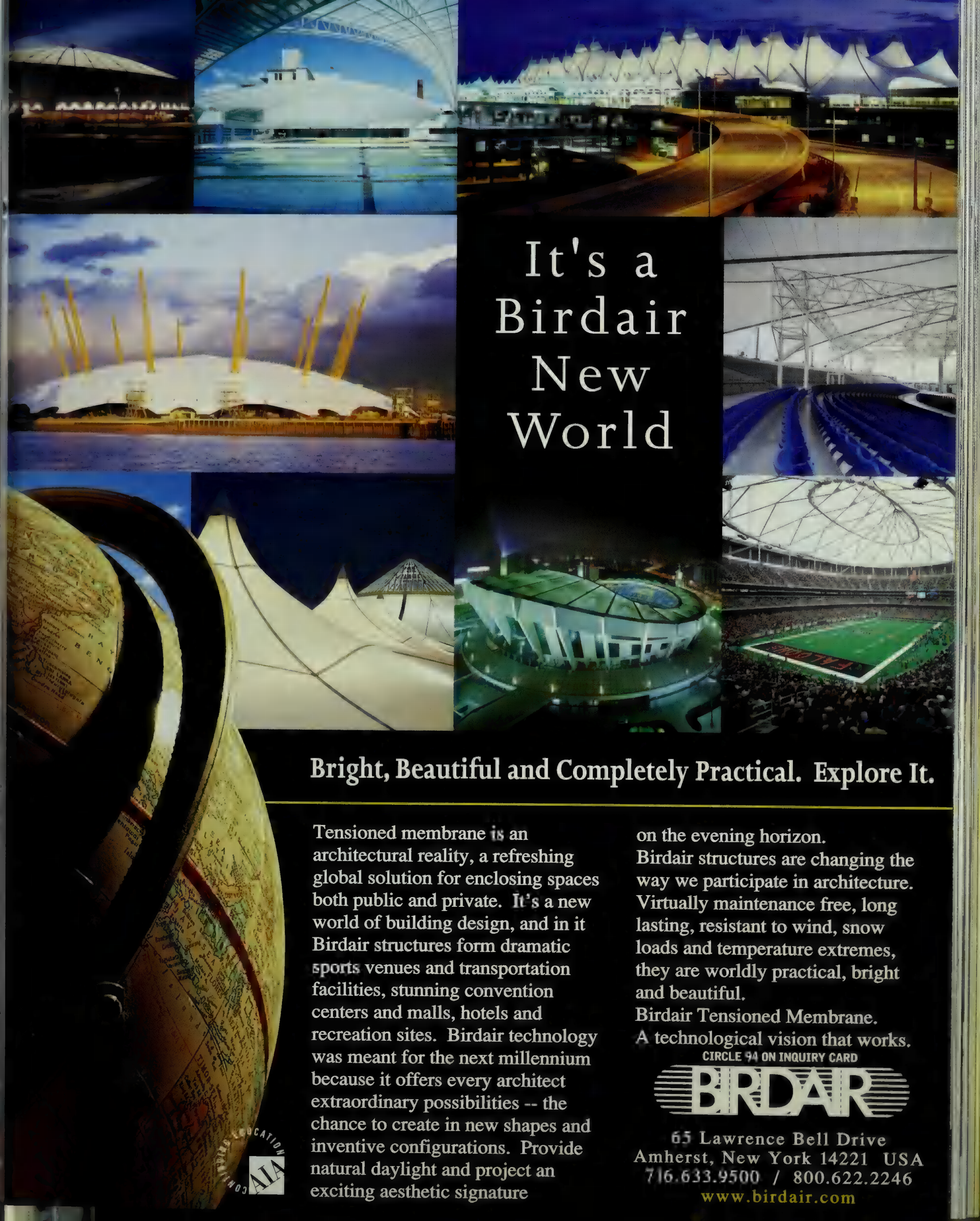
hydrology) and state of the art engineering analysis. The design process is often far more intense than for standard construction, involving detailed computer studies and predictive modeling as well as constant collaboration with creative engineers. More sophisticated buildings need to be very precisely engineered: users cannot compensate for miscalculations by fiddling with the thermostat, because one of the benefits of the higher design effort is to reduce or eliminate dependence on mechanical air conditioning and ventilation.

"Clients won't pay for it" is the usually cited obstacle to green design in America. It is true that Europe enforces aspects of green design through increasingly stringent laws. The European Union actively encourages sustainability by sponsoring research and experiment. (The Jubilee Campus and the Mont-Cenis Training Center [December 1999, page 199] both benefited from research paid for by the EU, which also subsidized their photovoltaic cells—a technology that such applications is making economically viable. But many green buildings are commissioned, often to standards exceeding Europe's requirements, because clients (even speculative



Project: *Slateford Green housing, Edinburgh, United Kingdom*
Architect: *Hackland + Dore, Architects*

building's initial capital costs amount to only a small fraction of the total costs of ownership over time. More important, the salaries paid to occupants of a commercial building dwarf the operating costs. The advantages green buildings offer (fewer sick days, better employee retention) translate into enormous economic benefits quickly. Truly sustainable design transcends mere technical, ecological, and economic issues. By fostering **community and connection,** it brings the nurturing social linkages of the city and the inspiriting aspects of the natural world into manmade realms. Today's mechanized world puts us out of touch with the sensory pleasures of physical reality and the social ties that bind. Architecture can put people in contact with these precious aspects of life. ■



Bright, Beautiful and Completely Practical. Explore It.

Tensioned membrane is an architectural reality, a refreshing global solution for enclosing spaces both public and private. It's a new world of building design, and in it Birdair structures form dramatic sports venues and transportation facilities, stunning convention centers and malls, hotels and recreation sites. Birdair technology was meant for the next millennium because it offers every architect extraordinary possibilities -- the chance to create in new shapes and inventive configurations. Provide natural daylight and project an exciting aesthetic signature on the evening horizon.

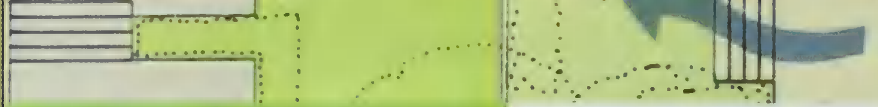
Birdair structures are changing the way we participate in architecture. Virtually maintenance free, long lasting, resistant to wind, snow loads and temperature extremes, they are worldly practical, bright and beautiful.

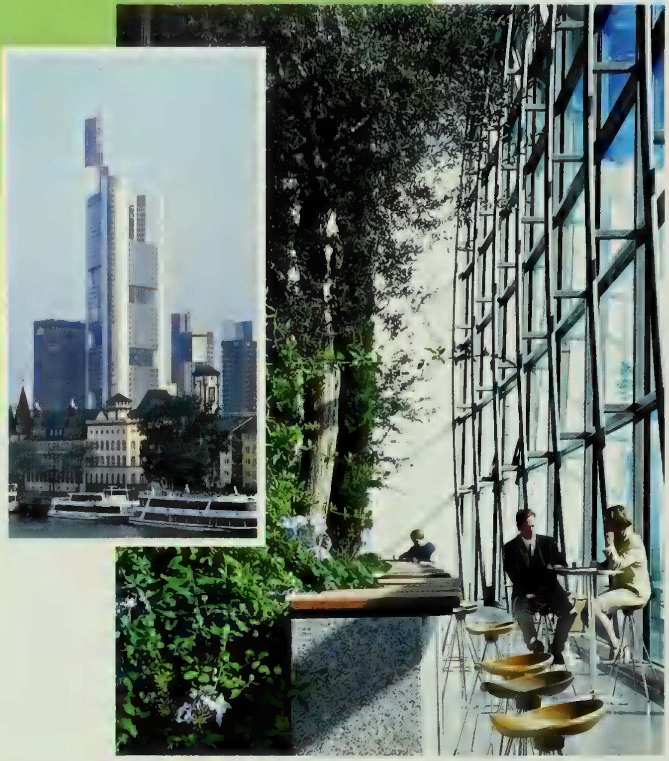
Birdair Tensioned Membrane.
A technological vision that works.

CIRCLE 94 ON INQUIRY CARD

BIRDAIR

65 Lawrence Bell Drive
Amherst, New York 14221 USA
716.633.9500 / 800.622.2246
www.birdair.com





Project: *Commerzbank headquarters, Frankfurt, Germany*
Architect: *Foster & Partners*

developers) recognize their economic virtues.

Green buildings do not necessarily cost more than conventional ones. (Both the Jubilee Campus and the Minnaert Building are low-cost.) The reduction or elimination of mechanical systems tends to offset extra costs for more precise assemblies or for a more complex building shell. Diminished running and maintenance costs soon bring additional savings. But spectacular economic benefits arise from the impact on the occupants. Typically in green workplaces, absenteeism and staff turnover (and so retraining costs) drop considerably and productivity increases. Lockheed-Martin's Building 157, built in the 1980s in Sunnyvale, California, is just one documented American example. With an American economy desperate for skilled labor, these are major incentives for American clients to build green.

Other common criticisms of green design are that it requires people to sacrifice comfort or convenience. Greater familiarity with such buildings will cause these concerns to evaporate. Improved quality of life explains the deep appeal of green buildings to their occupants. After the alienating isolation of sealed and artificially lit and ventilated buildings, people are overjoyed to re-establish contact with the outdoors, especially because well-designed green buildings embed themselves beautifully into their environment and enhance people's contact with nature.

Green design also reinforces the social life within buildings. The rise and ebb of the rainwater-fed pool inside the Minnaert building

Project: *Mont-Cenis Training Academy, Herne-Sodingen, Germany*
Architect: *Jourda & Perraudin Architectes*

What can you do with certified wood?

Norm Thompson Headquarters
Hillsboro, OR

Sienna Architecture Corporation
Portland, OR
Architects

Czopek & Erdenberger
Portland, OR
Interior Design

FSC-Certified Maple:
Doors, Railings, Workstations, Conference Table Paneling, Benches

Recycled Flooring:
Philippine Apitong Reclaimed from Railroad Boxcars

Certified Forest Products Council
CERTIFIED WELL-MANAGED FORESTS

info@certifiedwood.org • www.certifiedwood.org

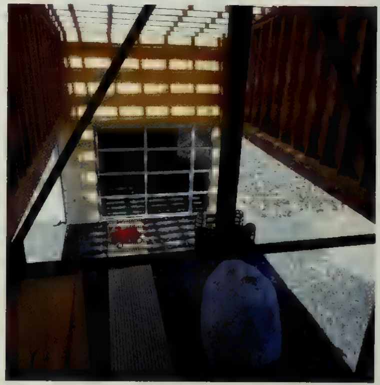
CIRCLE 95 ON INQUIRY CARD

essage made possible through a grant
The Pew Charitable Trusts.

Project: *Cotulla Ranch, Cotulla, Texas.*
Architect: *Lake/Flato Architects*

puts its college community in touch with forces of nature otherwise taken for granted. The ponds and native reed beds built within the Slateford Green housing are arranged not only to filter grey water and shelter wildlife, they are arranged to create attractive places for residents to stroll or socialize. It is easy to underestimate (or simply to fail to value) design that is sensually satisfying and psychologically meaningful. But by allowing a building to resonate with people's deep need to connect with nature and each other, we simply recognize forces that are increasingly coming to the surface in our culture. Instead of requiring any sort of regression, the green agenda asks us to step forward into a new culture that replaces the real-estate developer's simplistic product or the marketer's focus group-derived pastiche with buildings that allow us to become who we really can be.

Yes, the environmental crisis makes green buildings an urgent priority. A deep-seated desire for more appropriate buildings may be asserting itself even without the crisis that is currently helping to precipitate the changes in our values. These buildings don't deliver just low fuel bills and reduced emission of pollutants, they celebrate and symbolize human aspiration. ■



Project: *Howard House, West Pennant, Nova Scotia*
Architect: *Bryan Mackay-Lyons*

Project: *Palmer Rose Residence, Tucson, Arizona*
Architect: *Rick Joy, architect*

NEW DESIGNER HANDBOOK NOW AVAILABLE

and it's free.

Colorful photographs provide a sampling of the customized, special finishes for stainless steel available in today's marketplace. Learn about etched, embossed, rolled, colored, and other special finishes, and where you can find them through the handbook's Directory of Representative Suppliers.

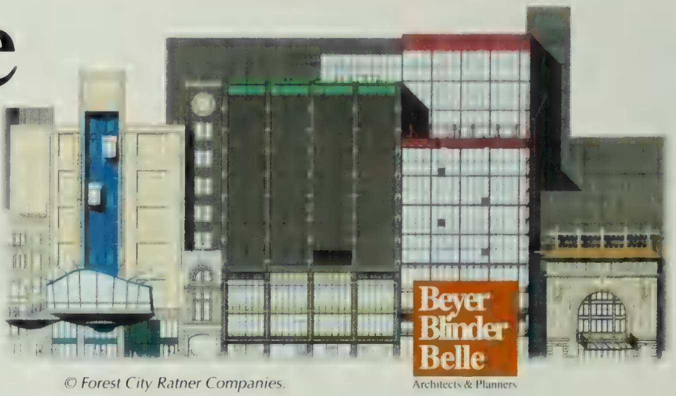
Request your free copy by contacting the Specialty Steel Industry of North America at 800-982-0355 or through the web site at *www.ssina.com*.

Special Finishes
FOR STAINLESS STEEL

SPECIALTY STEEL INDUSTRY
OF NORTH AMERICA
3050 K Street, N.W.
Washington, D.C. 20007

CIRCLE 96 ON INQUIRY CARD

Times Square renovation requires historical authenticity

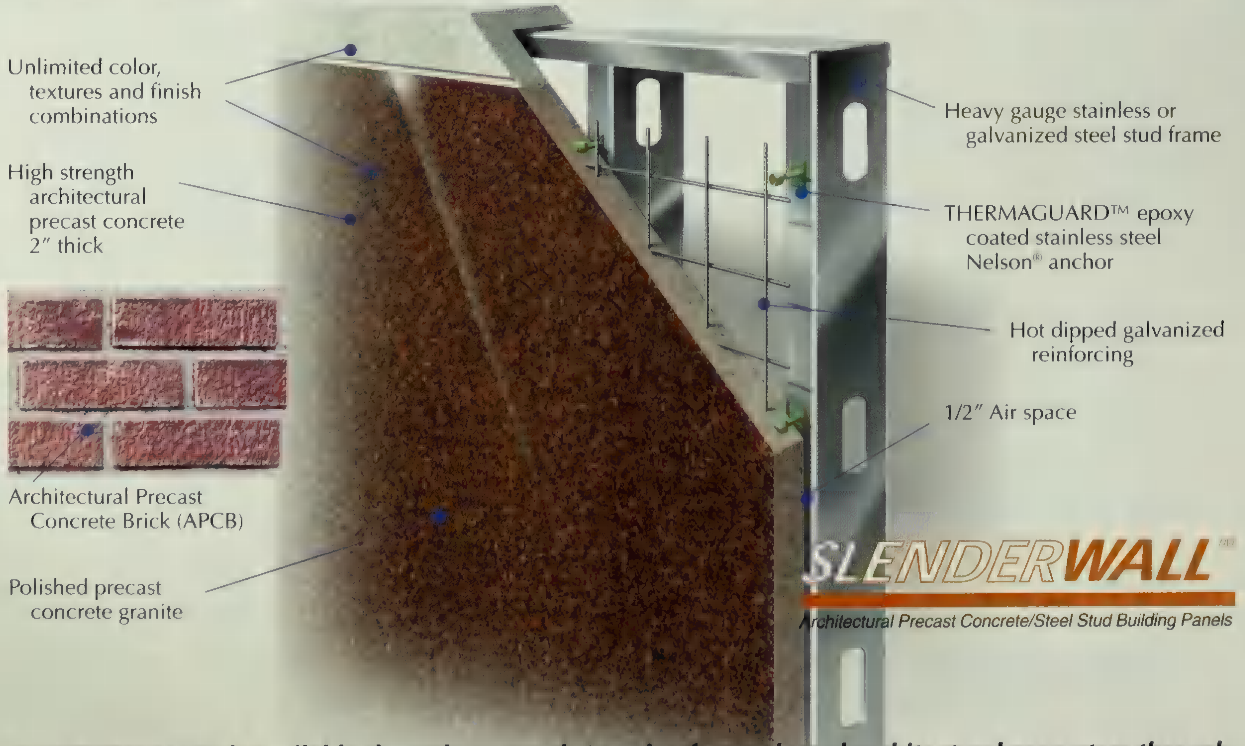


© Forest City Ratner Companies.

When Forest City Ratner and Lehrer McGovern Bovis required a permanent, lightweight wall system to pass the scrutiny of the Times Square Historical Review Board, they chose SLENDERWALL™.

SLENDERWALL combines time proven components to create a lightweight permanent wall panel system for new construction and renovation. Architectural precast concrete, insulated Nelson anchors, and heavy gauge steel studs create a single, efficient exterior wall system with unlimited design freedom.

SLENDERWALL is designed to reduce building foundation and structure costs; shipping and installation costs; and thermal transfer. The design isolates the exterior precast concrete skin from the structural stresses associated with wind loading, steel frame movement, expansion and contraction, and seismic shock.


Unlimited color, textures and finish combinations
High strength architectural precast concrete 2″ thick
Architectural Precast Concrete Brick (APCB)
Polished precast concrete granite
Heavy gauge stainless or galvanized steel stud frame
THERMAGUARD™ epoxy coated stainless steel Nelson® anchor
Hot dipped galvanized reinforcing
1/2″ Air space

SLENDERWALL

Architectural Precast Concrete/Steel Stud Building Panels

SLENDERWALL™ is available throughout North America from selected architectural precasters through EASI-SET™ Industries, licensor of precast concrete products, with 30 licensees in 7 countries.

EASI SET
EASI-SET™ INDUSTRIES
Midland, VA 22728
(800) 547-4045

Manufactured by:
SMITH-MIDLAND
EXCELLENCE IN PRECAST CONCRETE
Midland, VA 22728• (540) 439-3266

Sweet's Catalog 07415ESI
www.easi-set.com

EASI-SET is a wholly owned subsidiary of SMITH-MIDLAND Corporation, a publicly traded company

CIRCLE 97 ON INQUIRY CARD

Prepare for liftoff!

Everything builds to a defining moment. It's the moment when all the elements come together to create the desired effect.

In the design and construction industries, e-IDC.com brings hundreds of separate and distinct professional disciplines together into a centralized network community. A global Internet marketplace where "transactional e-commerce" is conducted instantly — from anywhere in the world.

The defining moment is now. Get on board … or get left behind.

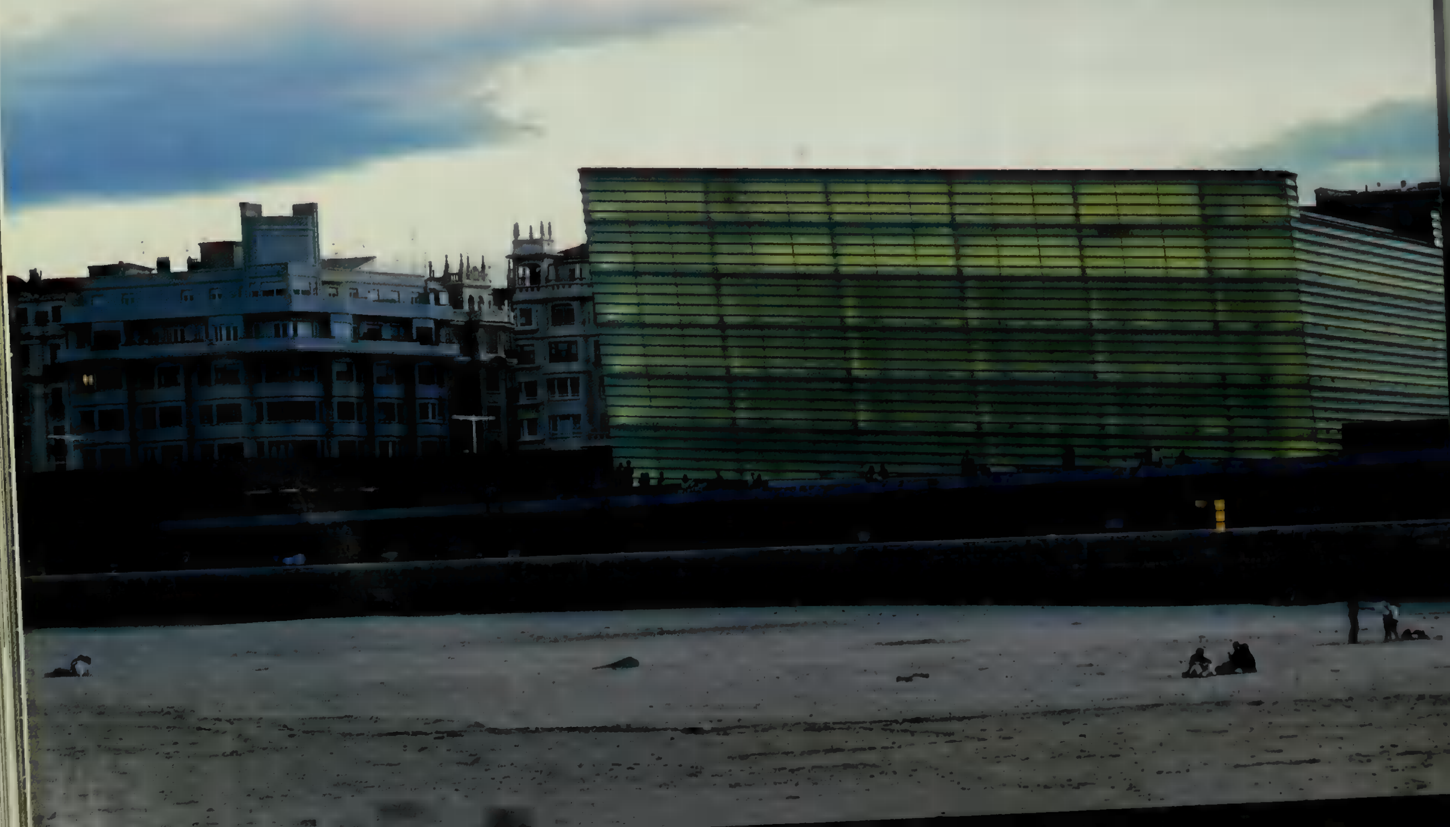
e-idc.com
INTERNATIONAL DESIGN AND CONSTRUCTION ONLINE

The new tool of your trade
CIRCLE 98 ON INQUIRY CARD

Call 1.877.302.5400 or visit www.e-idc.com

Like two glowing crystals, Rafael **Moneo's** **CENTRO KURSAAL** in northern Spain captures the energy of the city and landscape

The auditorium (right in photo) serves mainly as a symphony hall. The smaller congress center (left) also works for chamber music.



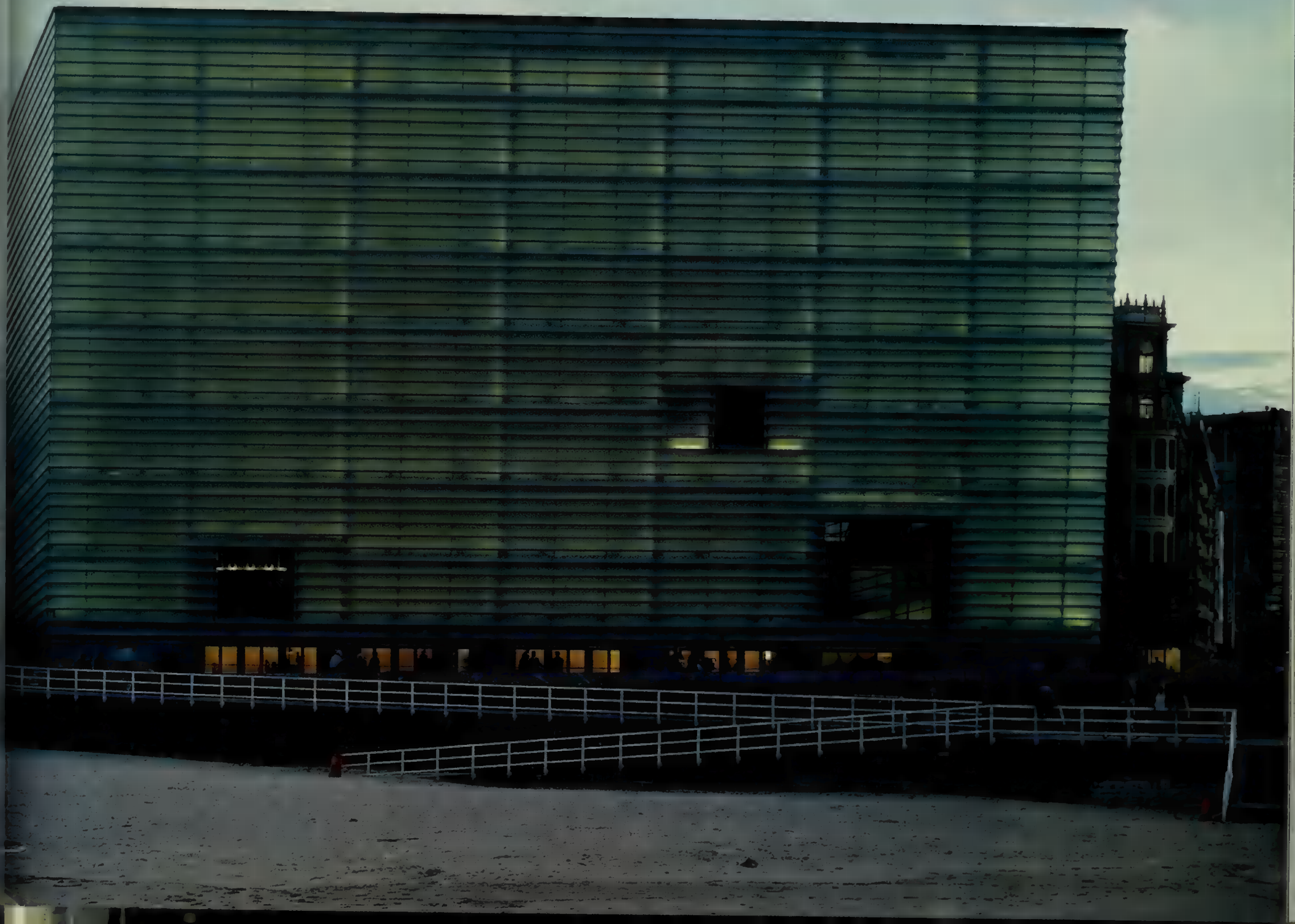
By David Cohn

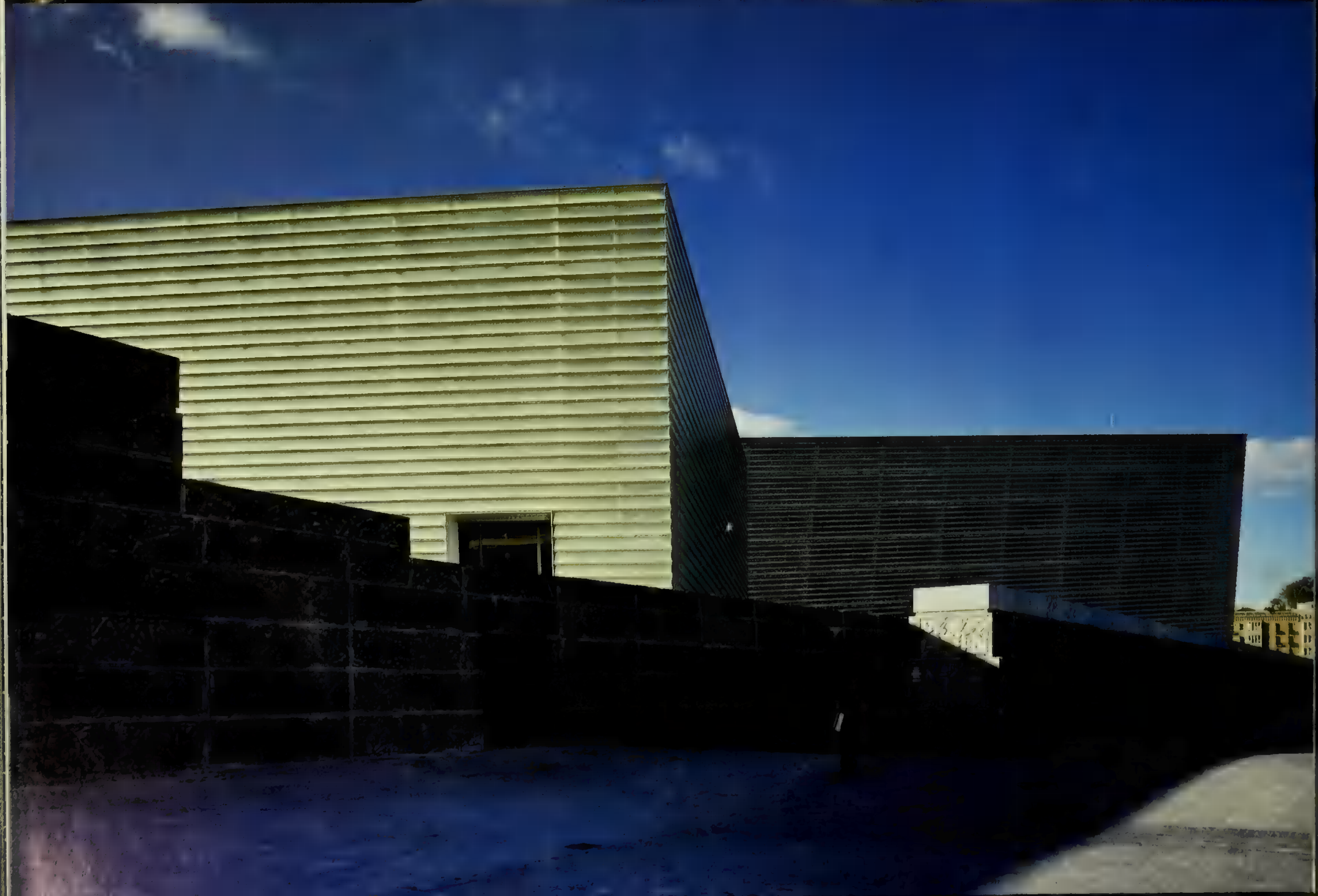
The Kursaal Auditorium and Congress Center is strikingly situated on Spain's rugged Basque coast. With a curving wall of old buildings serving as an architectural backdrop, the performing arts complex designed by Rafael Moneo offers a bold new face for the resort city of San Sebastián. Raised prominently on a stone podium overlooking one of the city's two protected bays, the Kursaal's two tilted boxes of translucent glass gesture dramatically to the sea in front and the steep hills behind.

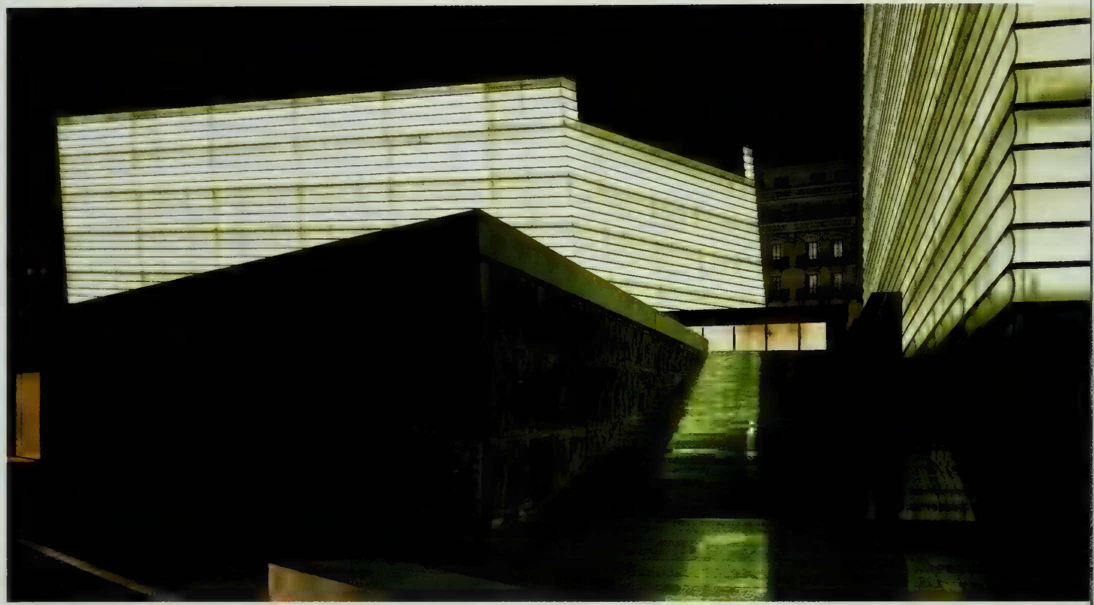
Since its inauguration last August, the Kursaal has been a popular and critical success and was widely celebrated in Spain's national media last fall when it served as the venue for the San Sebastián Film Festival. Only 45 miles from the Guggenheim Museum in Bilbao, the auditorium is part of a public development plan aimed at economically renewing the Basque region. The project was sponsored by a consortium of local, regional, and national government groups, and it is run as a public institution.

Moneo's design is an inventive reinterpretation of the building typology used by Jørn Utzon in his Sydney Opera House of 1956–73, which impressed critics and the public with its freestanding forms set on a podium at the center of a panoramic landscape. (As a young man in the early 1960s, Moneo worked for a year in Utzon's Copenhagen office.) The building-on-a-podium form—which originated with the Greek temple on an acropolis and passed into modern architecture through romantic-classical designs such as Schinkel's Altes Museum in Berlin—is ideally suited to the site. San Sebastián's success as an early-20th-century upper-class bathing resort owed much to the romantic qualities of its

David Cohn is RECORD*'s correspondent in Madrid and is an American architecture critic who also writes for* Arquitectura Viva *and* Bauwelt. *His book* Young Spanish Architects *was published this year by Birkhäuser.*







The 540,000 square-foot Kursaal sits on a promontory between San Sebastián's two bays (opposite top). Stores, a cafe, a restaurant, gallery space, and parking for 500 cars are tucked into the podium. Sheathed in concave bands of glass, the Kursaal's two main volumes change character continually during the day—evolving from opaque blocks in daylight to lanterns at night.

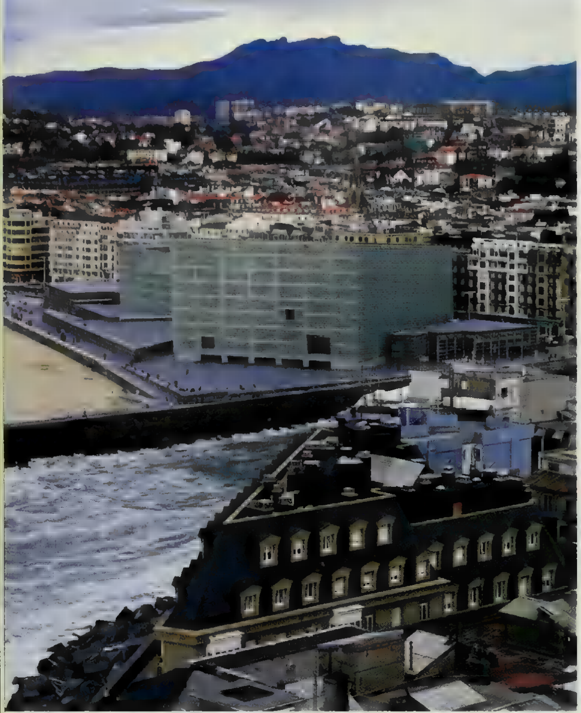
geographic features. The contrast between the calm, sheltered bays and steep, rocky promontories, where ocean waves crash against the cliffs, recalls the pictorial drama of 19th-century landscape paintings by artists such as Caspar David Friedrich or Arnold Böcklin.

The Kursaal, named for a casino that once stood on the site, occupies a key position in this landscape. The building rises beside the mouth of the Urumea River, where, in Moneo's words, "the river gives itself up to the sea." Here, strong ocean breakers and tidal swells rush up the river channel to push against the very foundations of the city.

Moneo felt this strategic meeting point between nature and the city required "an architectural symbol that did not belong so clearly to the world of buildings, but maintained the abstract and natural condition one can find in mineral forms such as crystals. From this arose the analogy or metaphor that imposed itself from the beginning, which compares the Kursaal to a rock beached or anchored in the mouth of the river, like a geographic accident." Moneo believes this approach is the key reason his entry was selected in the 1990 competition for the project, over designs by Norman Foster, Arata Isozaki, Mario Botta, Juan Navarro Baldeweg, and local architect Luis Peña with J. A. Corrales. "The jury

---

Project: *Centro Kursaal—Kursaal Elkargunea, San Sebastián, Spain*
Architect: *José Rafael Moneo, Arquitecto—Rafael Moneo, principal in charge; Luis Rojo, project architect; Jeff Inaba, Andrew Borges, Barry Price, Ezra Gould, Collette Creppell, Nancy Chen, Albert Ho, Ignacio Quemada, Eduardo Belzunce, Fernando Iznaola, Jan Kleihues, Luis Diaz Maurino, Adolfo Zanetti, Robert Robinowitz, Juan Beldarrain, Pedro Elcuaz, Imanol Iturria, project team*
Engineers: *Javier Manterola, Hugo Corres and Associates, Jesús Jiménez Cañas (structural); J.G. Asociados (mechanical)*
Consultant: *Higini Arau (acoustical)*
Builders: *Murias, Moyua (foundations); Dragados, Amenabar, Altuna y Uría (concrete); URSSA (steel), Umoran (curtain wall)*



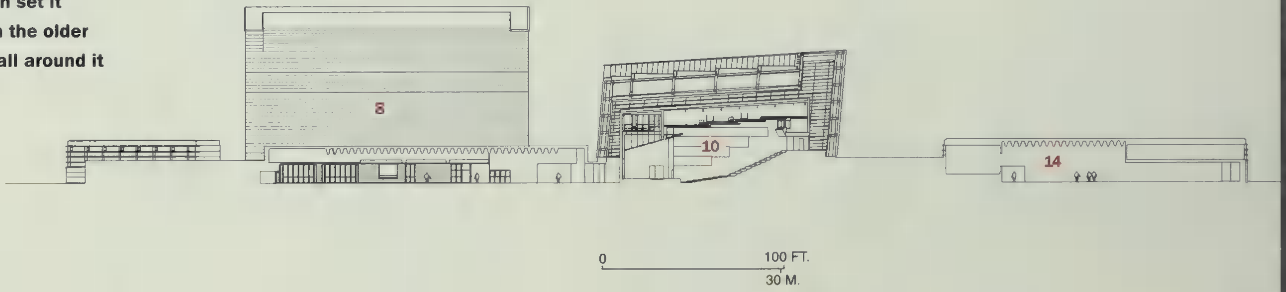
understood, I think, that this site could not be approached as an extension of the urban fabric, no matter what form that extension might take."

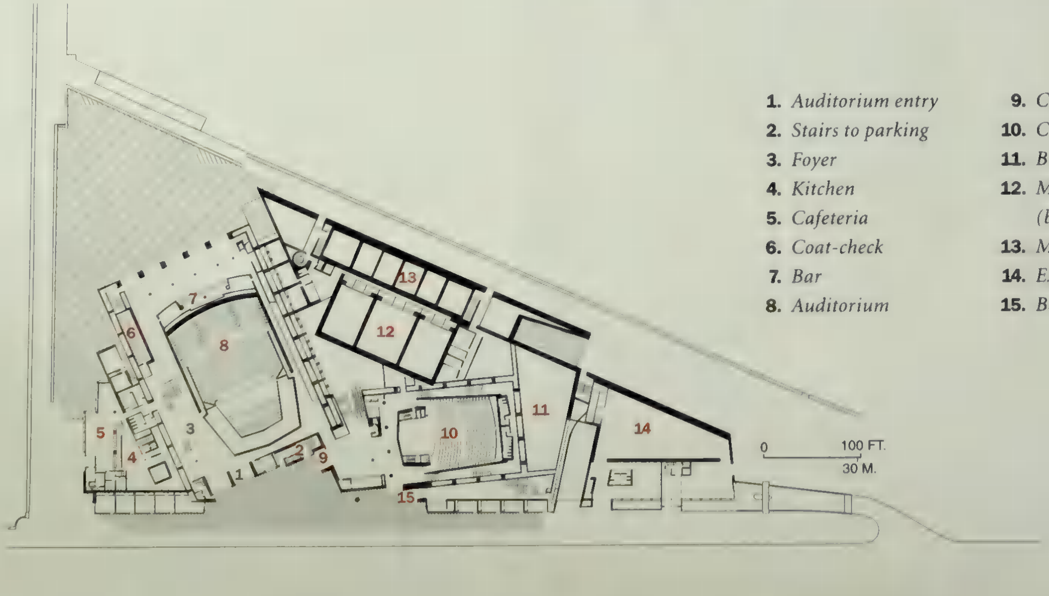
To achieve the abstract, mineral-like quality he wanted for the buildings, Moneo treated the exterior glass like a masonry cladding, rather than a transparent curtain wall. The architect compares the concave bands of glass to "the scales of a fish, multiplying reflections." The glass is pressed and laminated, with a rippled exterior profile and sandblasted interior finish, and has the slightly greenish tint of breaking waves. It forms part of a thick double wall, finished in strips of straight glass on the interior and enclosing a substantial structure of steel box beams.

The Kursaal's two glass "temples" clearly form the pièce de résistance of the design. Opalescent in sunlight, deep and fluid in shadow, and glowing at night, these remarkable cubes promise spatial magic. And inside, they deliver: Soaring lobbies that surround each freestanding auditorium are wondrous spaces, insulated from the outside, as if under water. The tilting boxes, which can be seen through the translucent glazing, inject a subtle dynamism into the diffused daylight flooding the interiors. Stairs, balconies, and other circulation elements also set the grand spaces in motion. Each lobby, though, has a visual focal point: a single large window that frames a carefully selected exterior view.

The natural wood finishes of the floors, balustrades, and auditorium walls give the public and performance spaces a warm Scandinavian sensibility. In the largest lobby—which opens onto an entire

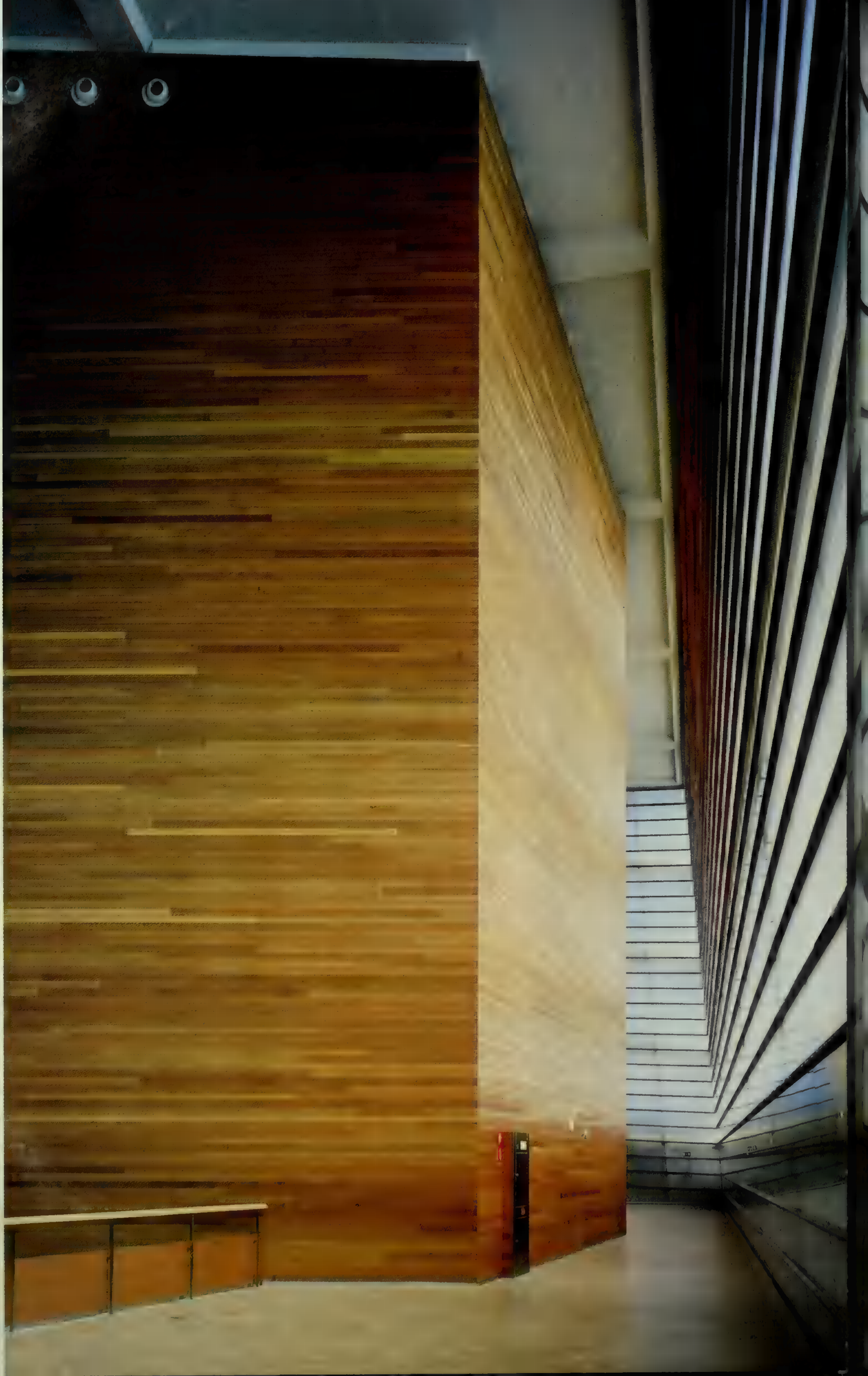
The project is clad with 5,808 pieces of curved glass (opposite), which set it apart from the older buildings all around it (above).

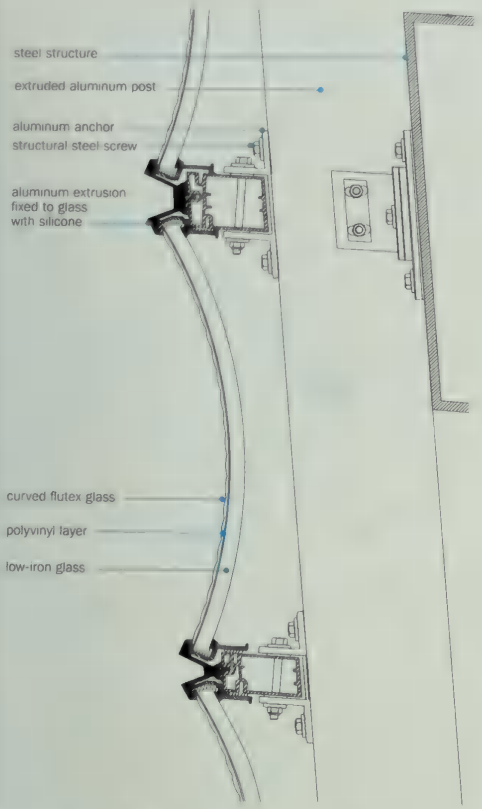




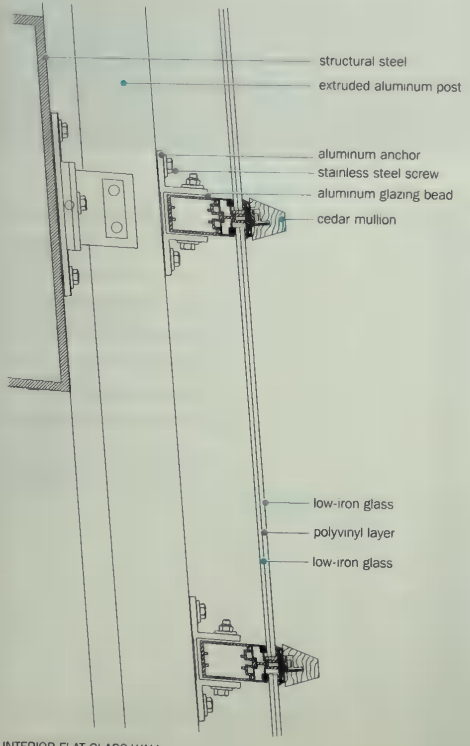
1. *Auditorium entry*
2. *Stairs to parking*
3. *Foyer*
4. *Kitchen*
5. *Cafeteria*
6. *Coat-check*
7. *Bar*
8. *Auditorium*
9. *Congress hall entry*
10. *Congress hall*
11. *Banquet hall (below)*
12. *Multipurpose (below)*
13. *Meeting (below)*
14. *Exhibition*
15. *Banquet hall entry*

The architect treated the auditorium and congress hall as blocks set within giant glass containers. The juxtaposition of Mediterranean limestone floors, oak-clad interior walls, and the glass curtain wall creates rich interiors.





EXTERIOR CURVED GLASS WALL



INTERIOR FLAT GLASS WALL

The building's curtain wall is a double skin of glass: curved on the outside and flat on the inside (drawings left and above). Lobbies are grand spaces perfect for people watching during intermissions (opposite).

side of the concert hall and is ringed by a cantilevered balcony for good people-watching during intermissions—a very high and seemingly unsupported sequence of stairs draws visitors up toward another source of warmth: daylight and a sea view.

Beneath the Kursaal's glass pavilions, the podium contains a number of retail and restaurant spaces, along with their supporting services. The plinth is partially clad in black slate, assembled in prefabricated panels in roughly textured patterns of deep relief. The long street facade at this level is lined with small shops, a cafe, and an upscale restaurant at one end and a public exhibition gallery at the other. Each of the public spaces—including lower-level functions such as meeting and seminar rooms, a multiuse banquet hall, and public parking—can be accessed independently from within the angled entry portico.

Like Moneo's recently completed Barcelona Concert Hall, the Kursaal's rectangular auditoriums are classically proportioned for acoustic reasons and are entirely finished in wood, in this case, Canadian cedar and Oregon pine. The large hall, with an 1,828-seat capacity, can accommodate small opera productions as well as symphonic concerts; the smaller hall, suitable for chamber music, seats 626.

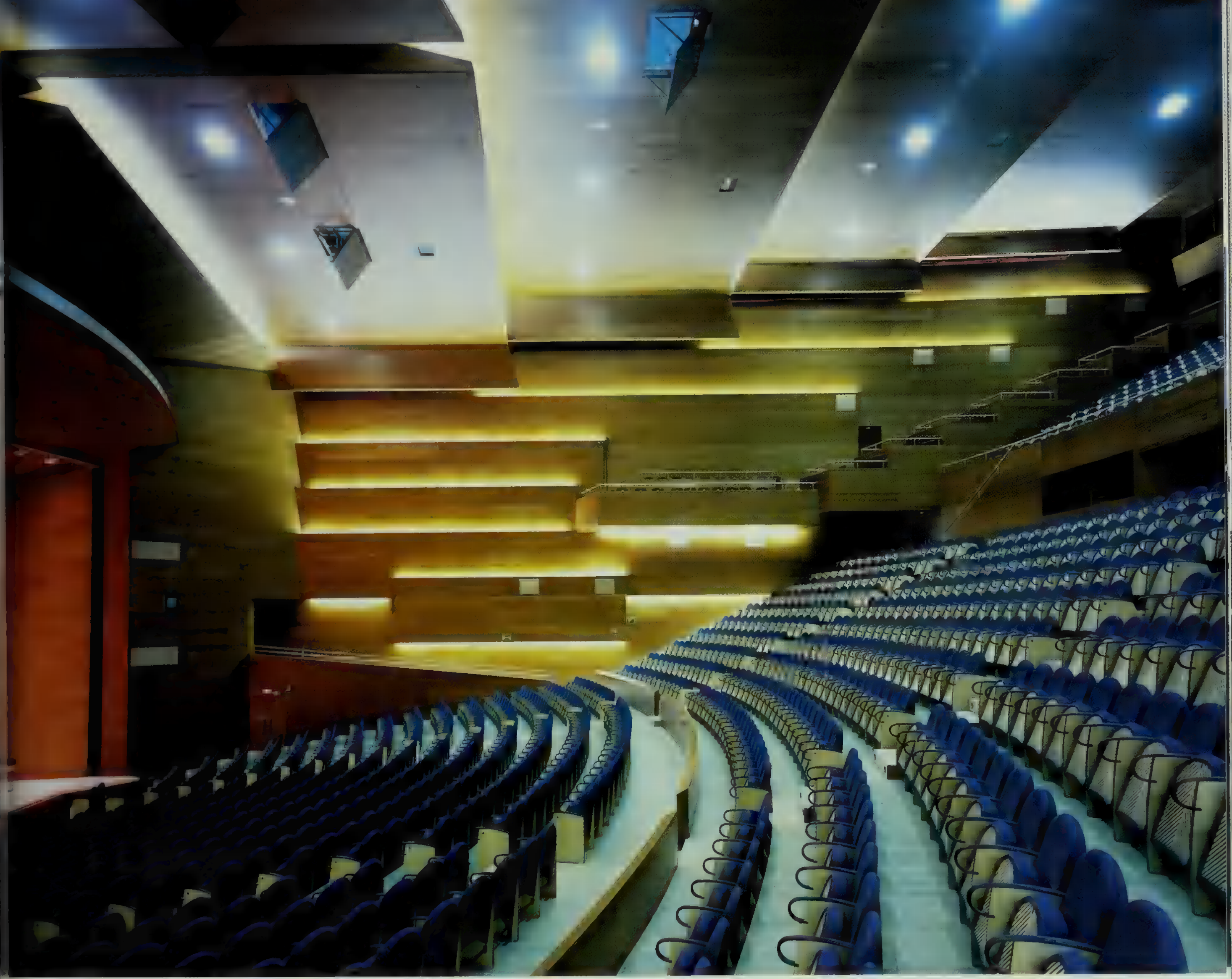
Given the geometric complexity of the tilted glass forms, which angle three degrees off one horizontal axis and slope five degrees from the vertical, the detailing was relatively straightforward, according to Moneo. The asymmetrical, scalloped corner joints of the glass are repetitions or simple inversions of a single form, and they share the same custom element. Horizontal joints between the glass use a custom cast-aluminum V-shaped channel. Only two special types of angled-steel mounting clips were required to attach the struts supporting the glass to the structure. The angled box beams and columns have welded joints and are spaced to allow service access and the circulation of tempered air. The glass volumes span freely over the auditoriums, with air-handling equipment suspended from their beams, thus making rooftop mechanical enclosures unnecessary and isolating the auditoriums from vibrations.

THE KURSAAL STANDS OUT FROM THE CITY TO ENGAGE IN A DIRECT DIALOGUE WITH THE LANDSCAPE

The relationship of the glass pavilions to the immediate surroundings is not always entirely satisfying. Particularly disappointing is the lack of connection between the major public interiors and the outdoor terraces overlooking the bay. The one exception is a line of glass doors at the rear of the main lobby, which open to the wide seaside walk; unfortunately these are set a few feet below the walkway level and are normally closed for security reasons. Moneo also seems to have had difficulty resolving the connection between the glass volumes and ground plane. Wherever possible, he hid this encounter in a narrow trench behind a rising ramp or behind the extended wing of the podium, producing a curious, volumetric collage effect. The problems of integrating indoors with outdoors and glass volumes with the base seem to arise from an overemphasis on the sealed image of the glass cubes, which does not permit a natural relationship with the exterior. Even the clear windows cut into the building's glass walls seem incongruous and uncertainly placed.

Ignacio Quemada, one of the architects from Moneo's office who supervised the construction process, notes that the project was complicated by a number of management problems. After languishing

The 33,000-square-foot auditorium (opposite) seats 1,828 people and can accommodate full orchestral performances. Access spaces outside the halls (above and left) are generously sized to handle large crowds.



unfunded for six years following the 1990 competition, the project was finished at breakneck speed to meet politically imposed deadlines. The interior of the main auditorium, for example, was mounted in only two months. Drastic late changes in program included the addition to the concert hall of a flytower for theatrical productions, which, midway through design development, required lowering the hall one floor to the basement. To hold down costs to a reasonable $53 million for a gross 540,000 square feet, the project was built without a general contractor. Instead, a city-employed architect served as construction manager. With no general contractor, 24 subcontracts were bid out independently, a management nightmare that resulted in, among other problems, the mid-construction collapse of the concert hall's lobby stair.

The Kursaal finds Moneo, now 63, at the height of his career. He continues to commute regularly from Madrid to Harvard, where he holds the José Luis Sert Chair in Architecture at the Graduate School of Design. His building for the Houston Museum of Fine Arts opened this March (see next month's issue of ARCHITECTURAL RECORD), and his project for the Los Angeles Cathedral broke ground last year. Meanwhile, in Madrid he is shepherding his competition-winning expansion plan for the Prado Museum through a complex approval process.

Like many of the best works of the modern movement, Moneo's Kursaal Auditorium and Congress Center is an extremely bold and risk-taking design, standing out from the city fabric to engage in a direct dialogue with the surrounding landscape. In this sense, it is true to both the romantic origins of San Sebastián and the romantic-classical origins of Utzon's acropolis-type form, transforming the physical image of the city while reaffirming its identity. ■

Sources

Prefabricated concrete panels with slate insets: *Pizarrerias Bernardos*

Clear glass in curtain wall: *PPG*

Curtain wall fabrication: *Cricursa*

Metal windows: *Umaran*

Roofing panels: *Robertson*

Limestone flooring: *Ureche (crema mediterraneo)*

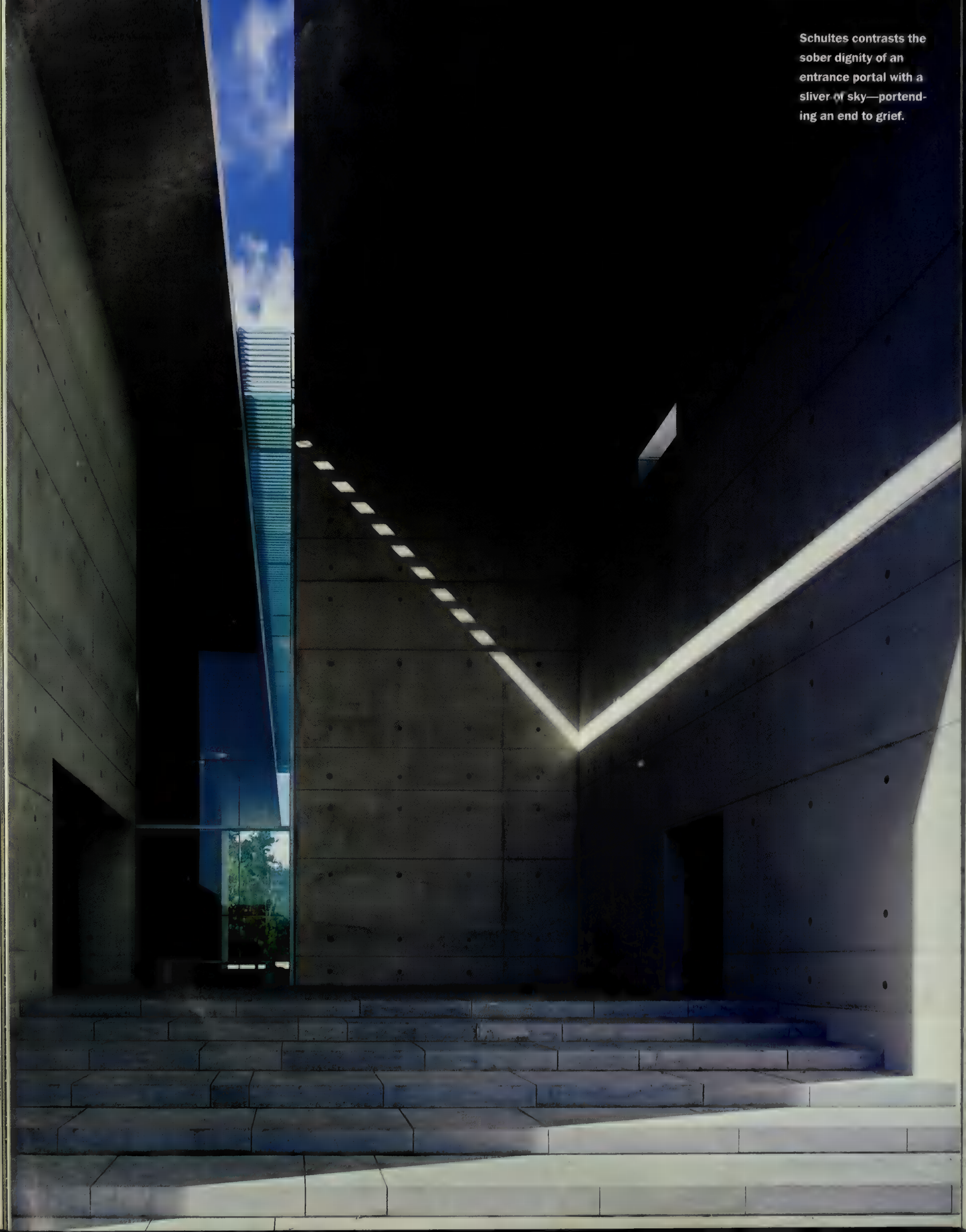
Oak flooring: *Carpinteria Elorza*

Cedar wall surfaces: *Carpinteria Blasco*

Auditorium seats: *Casas (designed by Rafael Moneo)*

Elevators: *Thyssen*

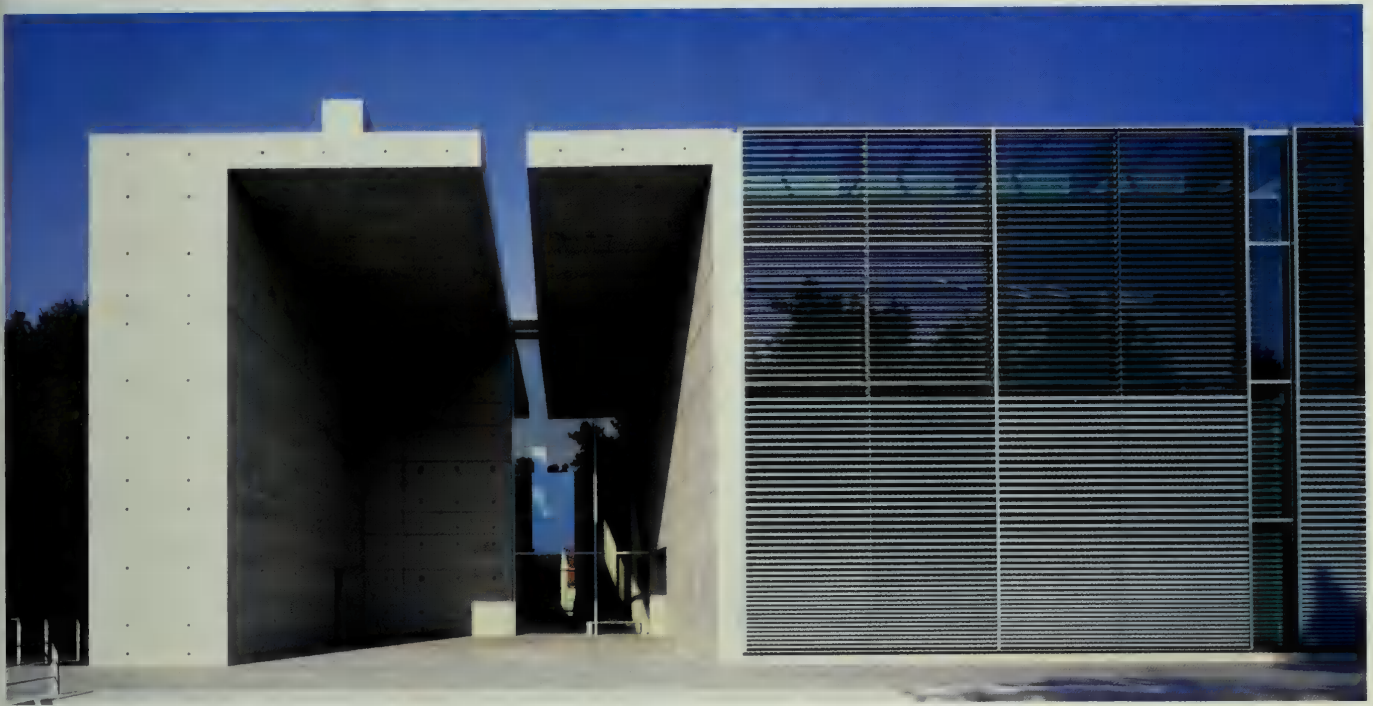
WWW *For more information on the people and products involved in this project, go to* ***Projects*** *at:* ***www.architecturalrecord.com***



Schultes contrasts the sober dignity of an entrance portal with a sliver of sky—portending an end to grief.

Evoking the infinite, Axel **Schultes** takes mourners at a **CREMATORIUM** from the clamor of daily life to a realm of calm and contemplation

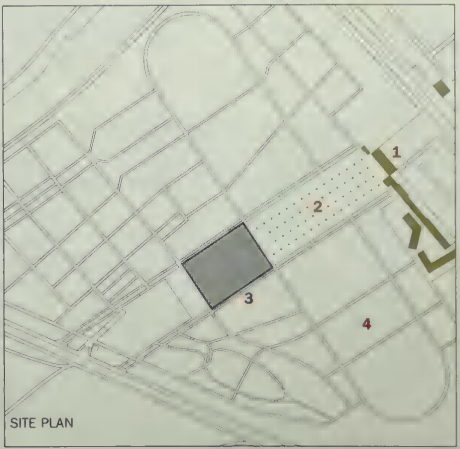
By James S. Russell, AIA



The visitor who comes to this leafy southeastern suburb of Berlin to mourn a recently deceased loved one passes through an arch attached to a stolid yet picturesque gatehouse and confronts head-on a severe facade of alternating concrete-framed openings and metal grilles. Set at the end of a treelined axis cut through the unruly greenery of an early-20th-century cemetery, the building reveals little about its function. Does one read this implacable block of a building as a symbol of the finality of death—of a threshold that the living have yet to cross? Even the architect recognizes the menace implicit in the first glimpse. "Some mourners have told me they don't like it," says Axel Schultes.

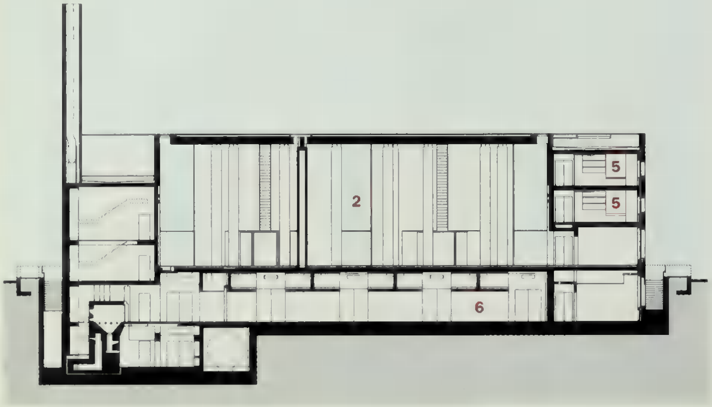
Designing the Baumschulenweg Crematorium was a delicate task

Project: *Baumschulenweg Crematorium, Berlin-Treptow, Germany*
Architect: *Axel Schultes Architekten—Axel Schultes, Charlotte Frank, design; Margret Kister, Christoph Witt, Daniela Andresen, Bob Choeff, Patrick Dierks, Christian Helfrich, Andreas Schuldes, Till Waninger, team*
Engineers: *GSE Saar Enseleit und Partner, IDL (structural); Brandi Ingenieure (mechanical)*
Contractor: *Bilfinger + Bilfinger*

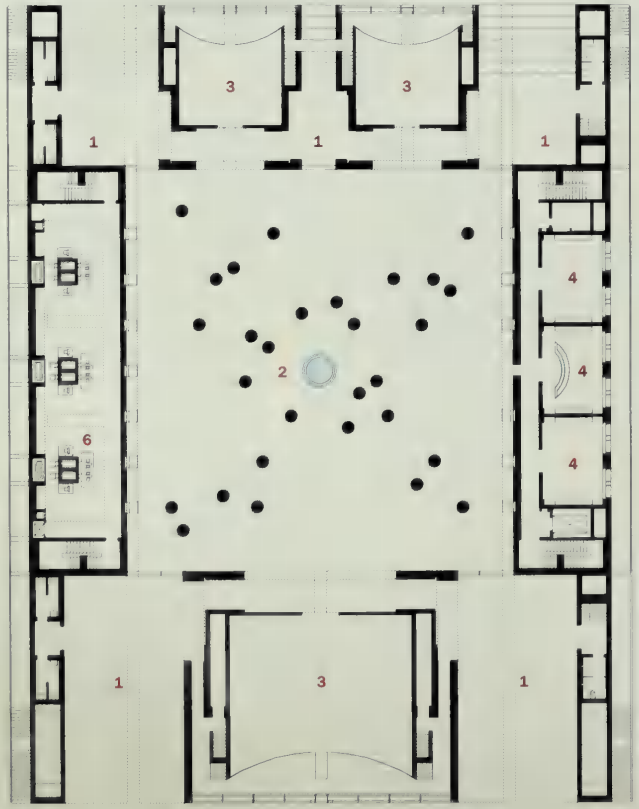


1. *Cemetery entrance and gatehouse*
2. *Forecourt*
3. *Crematorium*
4. *Cemetery*

1. *Entrance portal*
2. *Gathering space*
3. *Chapel*
4. *Waiting area*
5. *Office*
6. *Crematorium*



SECTION



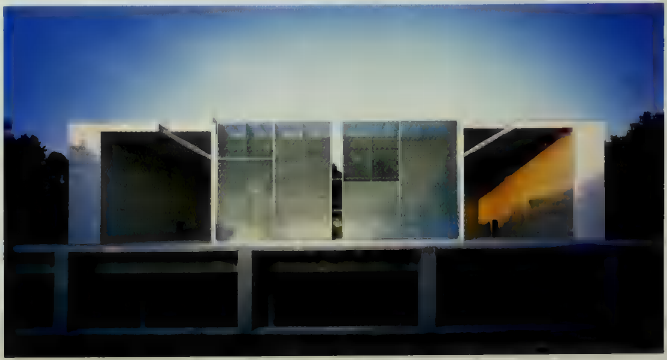
MAIN FLOOR

for Schultes and his partner, Charlotte Frank, because the building tends not just to the living but to the dead. As in America, cremation has become more popular in Europe as burial space has shrunk and as society has come to value less the almost intimate contact with the dead that traditional ceremonies entailed. Cremation is efficient but uncomfortably reminiscent of hell. In Germany, it also evokes the use of ovens in the Final Solution. While making the incendiary purpose of the building all but invisible, the designers created instead a realm suitable to the occasion of mourning by subjecting the building to a rigorous discipline. It is most visible at dusk (opposite), when the light behind the flat planes of the grilles reveals two cubes, the same size as the flanking entrance portals, within which two inner cubes enclose chapels. As the visitor approaches one of the massive portals, however, the imposing order is rent by a simple gesture. A slot interrupts the portal roof, opening a view of cloud-dotted blue. There is something heartening about that sliver of sky, a harbinger of the end of grief.

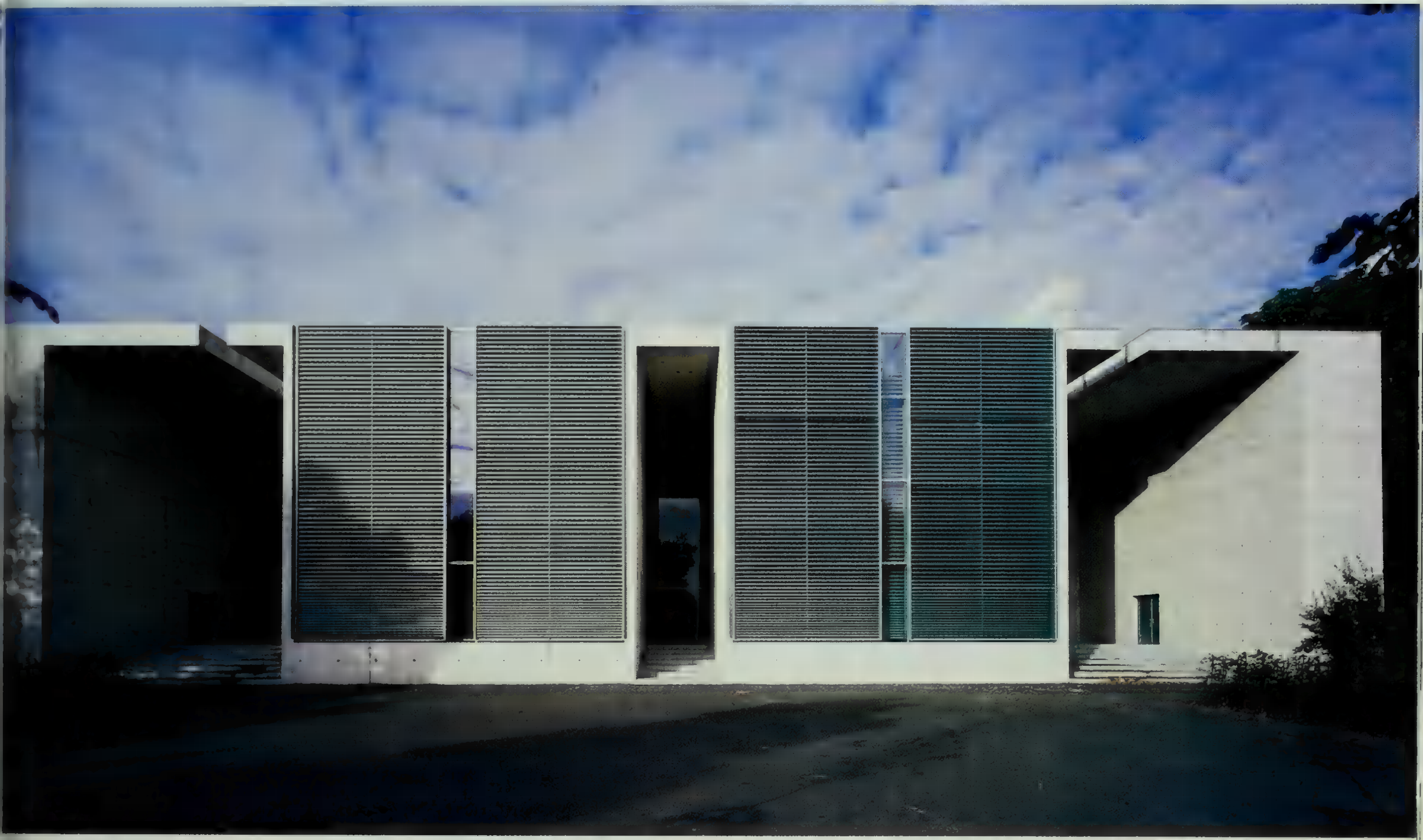
Schultes and Frank drew the slot at the top of the portico through the building, leading the mourner into an enormous central interior gathering space. Though the chapels are where the actual ritual of memorialization takes place, the architects made this condolence hall the focus of the architectural composition.

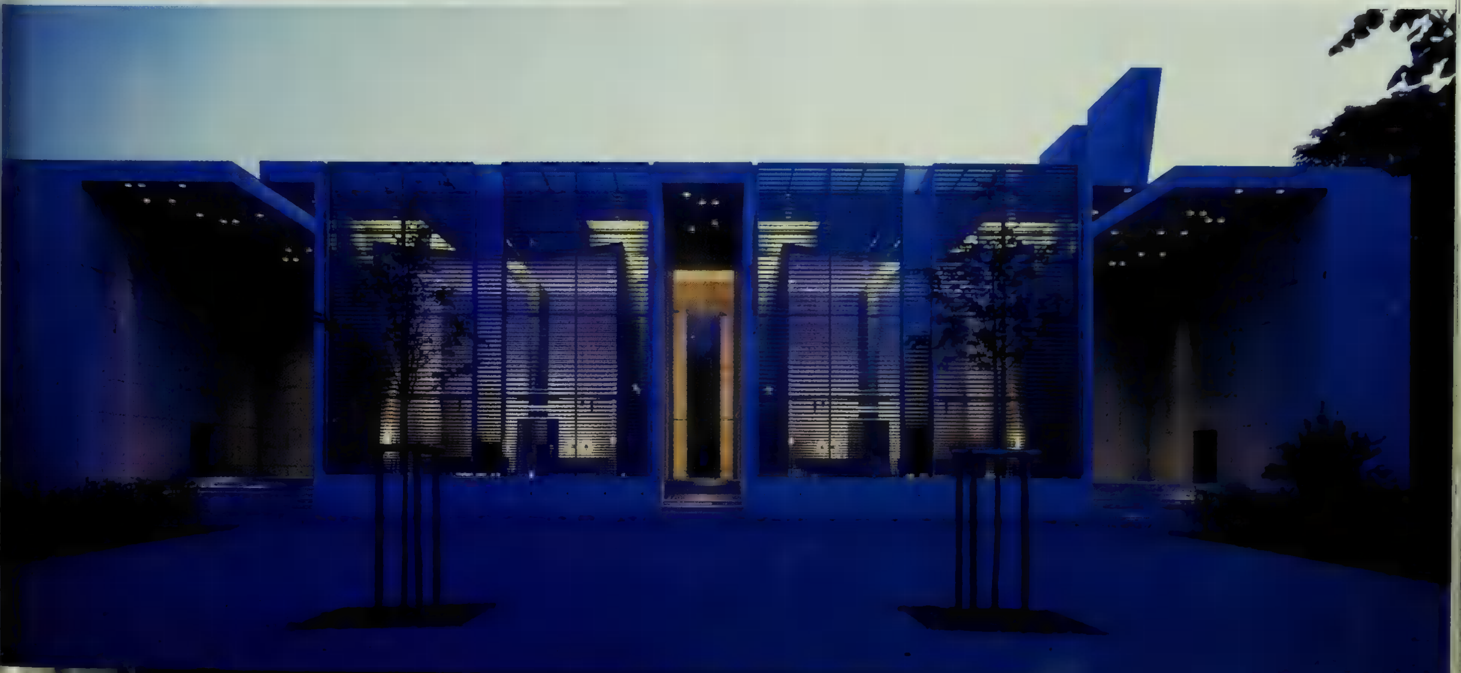
The massive columns within this hall appear to have been scattered at random, clustered in small groups or standing apart, just as mourners do. To further delimit the columns' ceremonial rather than structural role, Schultes ringed their "capitals" with south-facing skylights. Sunlight skims the shafts and dapples the stone floor. A basin of water bubbles amid the columns. What could have been a mere waiting room has been made into a metaphysical forest.

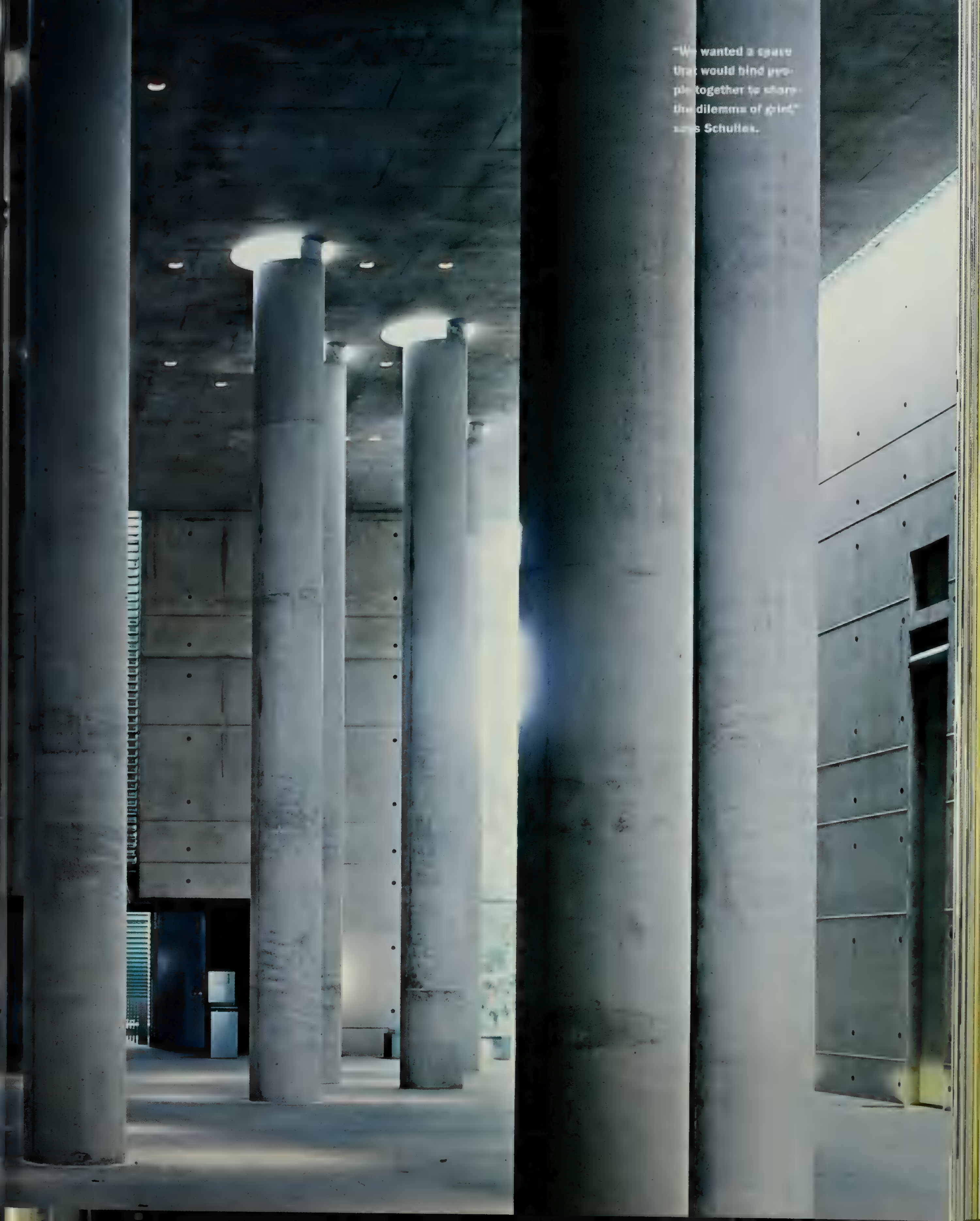
Originally, the program contained no gathering space. The architects were asked to put in anterooms connected to each chapel. To Schultes, these spaces would have proved as clinical and anxiety-provoking as doctors' waiting rooms. "We wanted a space that would bind people together to share the dilemma of grief," he explains. The time people take to console one other, and to remember together the person who has passed on, may be more important, Schultes thinks, than the actual funeral service. So he and his team united the waiting areas into a single space, one with the scale and architectural dignity that he hopes "reaches



Schultes united a series of programmed waiting rooms into a single large gathering place (plan and section opposite), around which he placed chapels. Dusk (bottom) reveals the layering of walls behind the cast concrete, metal louvers, and glass of the entrance facade (below). View of rear elevation (opposite bottom).

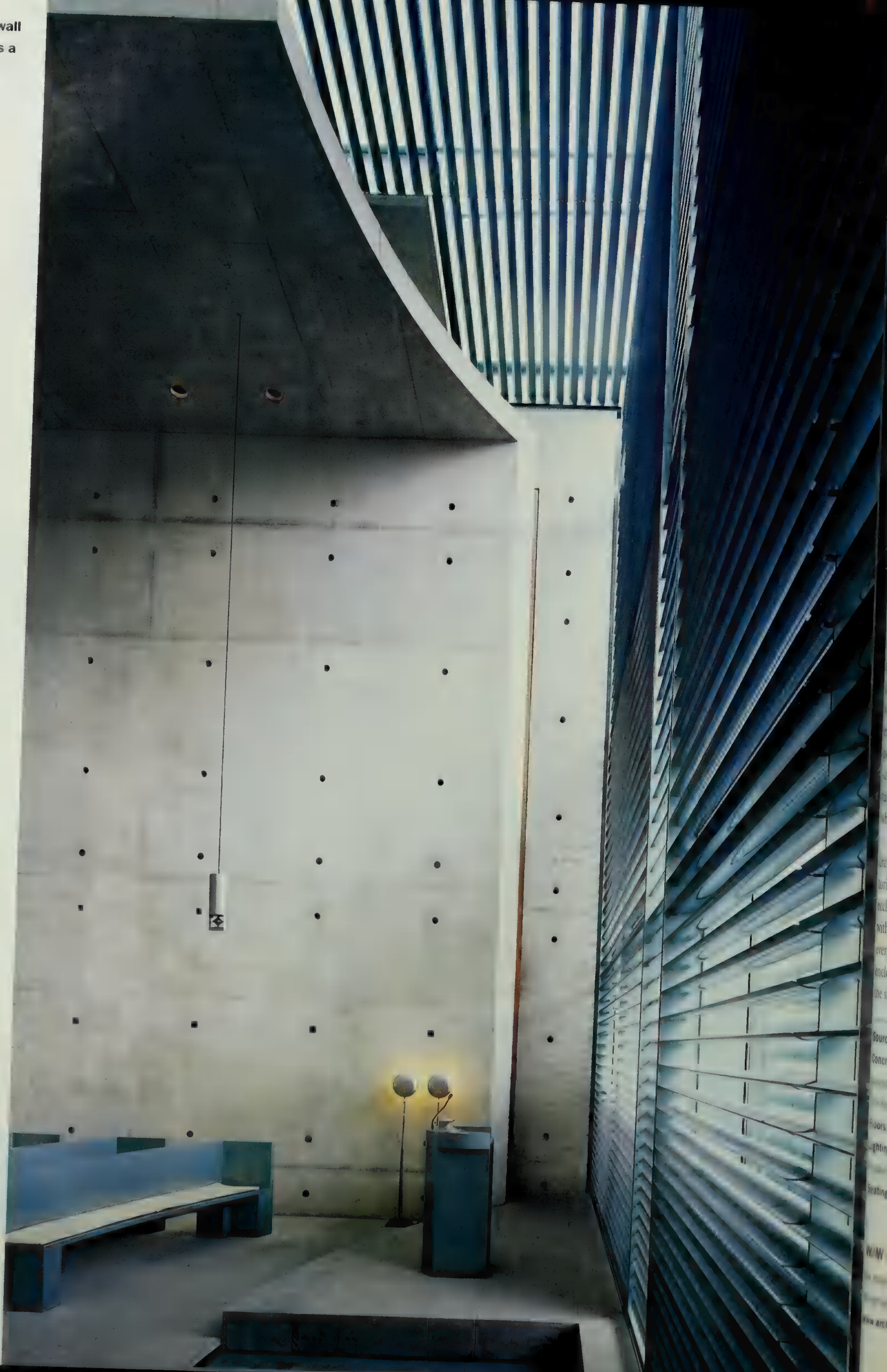






"We wanted a space that would bind people together to share the dilemma of grief," says Schultes.

The inner concrete wall in the chapels offers a primordial sense of enclosure (right).



the hearts and spirits of people." The architects found the elegiac quality they sought for the building by reaching back through history in a search for forms that tap universal understanding. Schultes admires the shafts of light slicing the dusty air of Hagia Sophia and the shadowy world of columns and arches in Spain's Alhambra. He once described the Baths of Caracalla as a building consisting of "wall and light."

The simple dignity of the plan and the modern materials evoke a primordial, weathered purity of the past. But contemporary buildings intended for today's use can never be so pure as ancient ruins, so the architects cue viewers to their intention by undercutting their own carefully fabricated rationale, as in the columns that recognize no conventional ratio of span to height and "support" only light. Similarly, the massive side walls don't hold up the enormous flat plate of the double-height ceiling of the gathering space: the light slots separate wall and ceiling. "You sense the weight in the hundreds and hundreds of tons of concrete, but we relieve the weight because of the light that comes where the pressure should be greatest," says Schultes.

The crematorium is just one project in which Schultes and Frank have struggled to move beyond what they regard as a simplistic debate on the design of public buildings in Germany. Schultes views design in the former West German capital, Bonn, as so deferential as to be all but invisible. Yet the partners do not want to reinvent classicism, however abstracted or disguised. They want architecture to recognize a progressive and optimistic view of the future, but they also want it to play its historical role of dignifying the rituals and events of public life. Their vision won them the master plan for the Spreebogen—a vast band of government ministries that will become the heart of united Germany's new government. While politics and budget cuts have pared down that scheme's ambitions, Schultes and Frank are also designing its key structure, the chancellery, which will house the offices of the prime minister when it is completed later this year.

CAN ARCHITECTURE STILL MAKE A REALM FOR THE RITUALS AND EVENTS OF PUBLIC LIFE?

The partners' design operations are perhaps too internal to architecture to be readily understood by most people, but in the crematorium they succeed in touching an emotional chord. Without using ecclesiastical devices (it serves those of a variety of faiths as well as those with no faith at all), Schultes conveys the visitor from the clamorous everyday world to a realm of calm and contemplation. The heft of the enclosure is at once sepulchral and comforting. The shafts of light from the skylight and the slots in the roof subtly evoke the infinite. ■

Sources

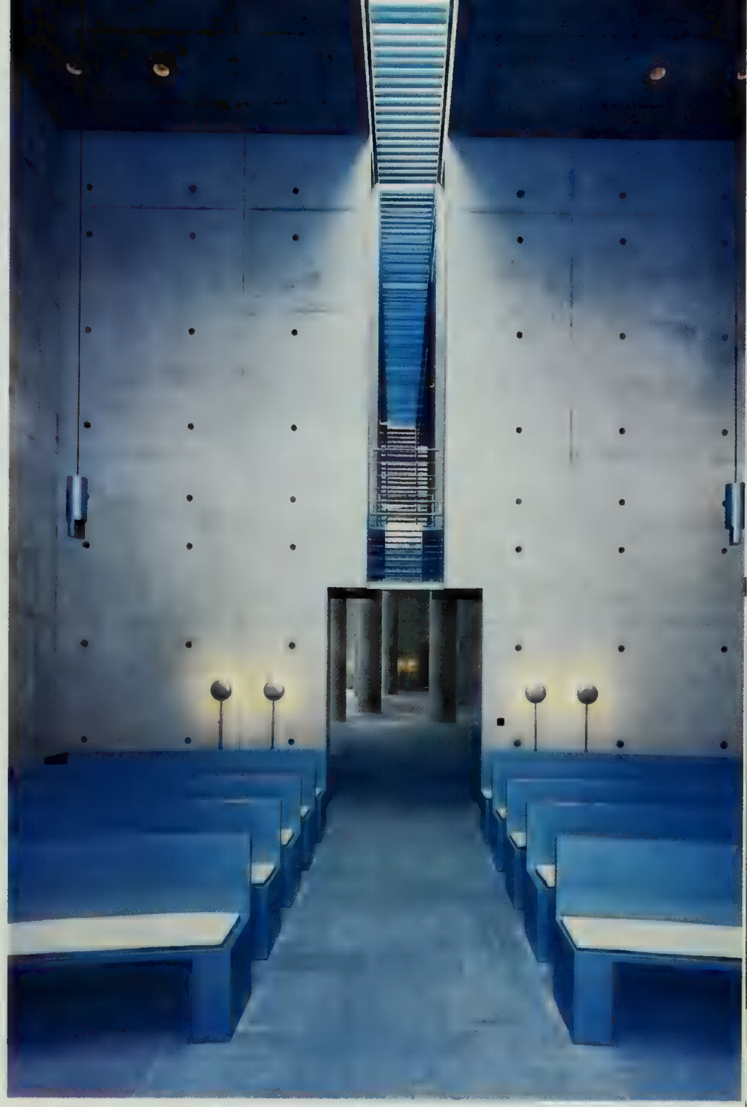
Concrete: *Cast-in-place, flat, untextured in blocks in 231-by-165-foot blocks*

Floors: *Serpentino marble (Italy)*

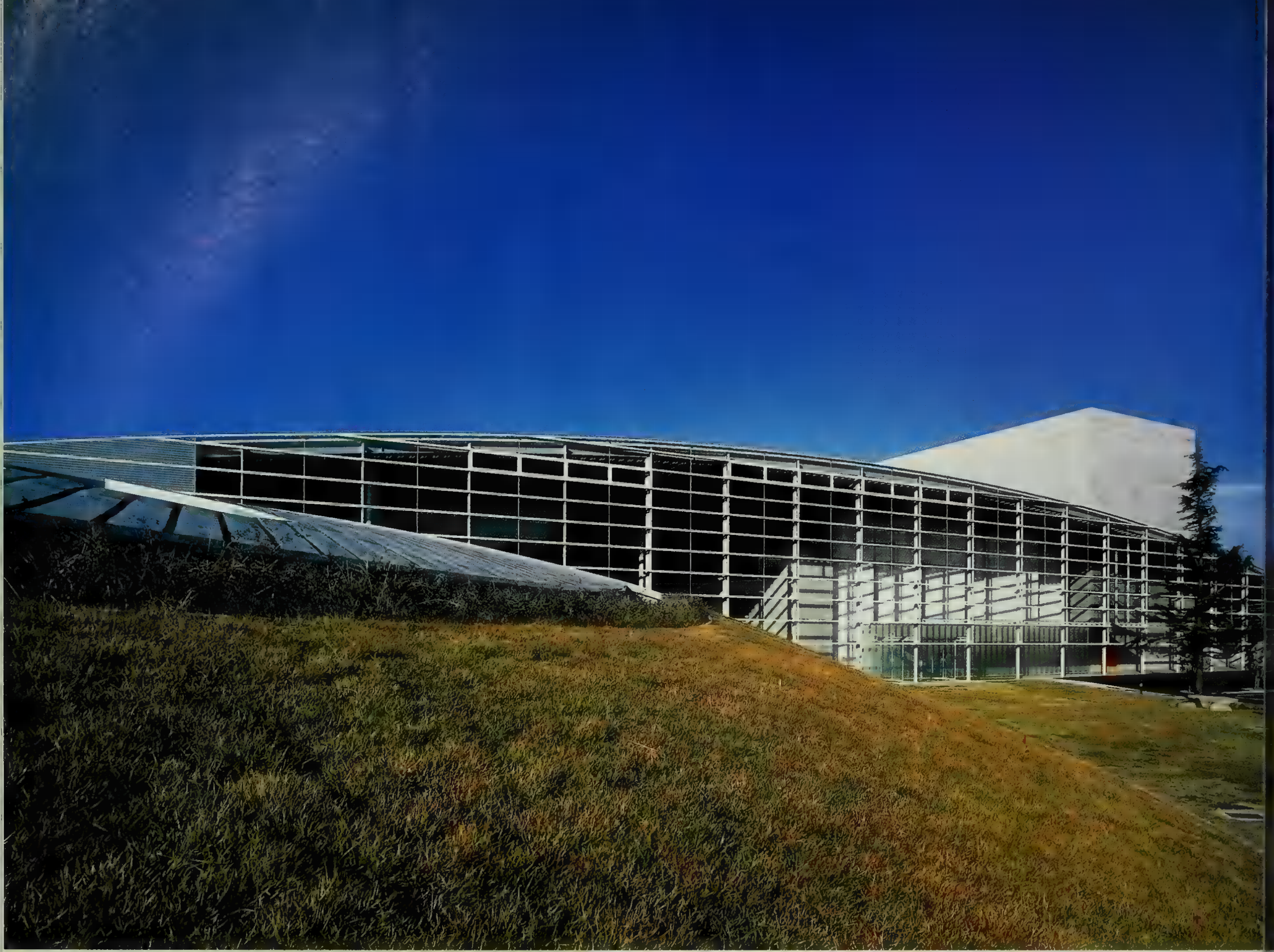
Lighting: *Custom designed by Friedjof Schlorphacke*

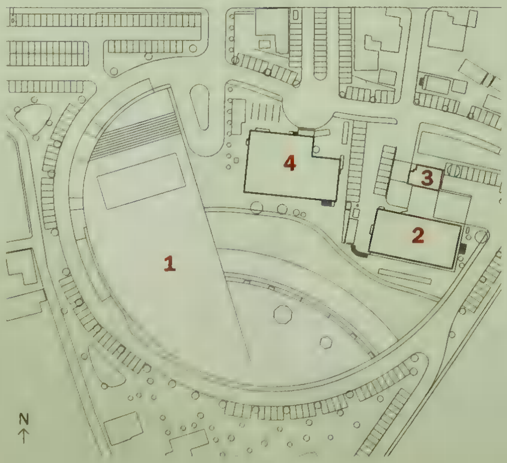
Seating: *Thonet, Landi, Kewi*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* ***www.architecturalrecord.com***



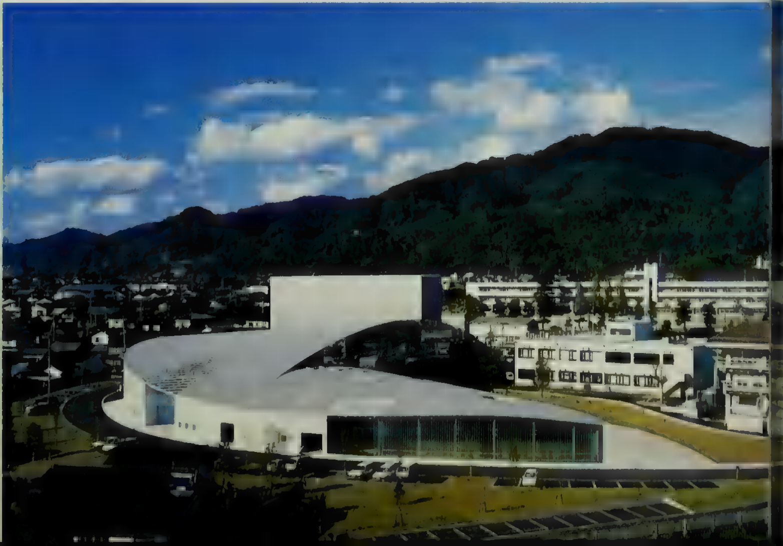
Large doorways and slotlike openings invite mourners to proceed from the gathering space to the chapels, which are bathed in sunlight (above). A skylighted slot runs from the portals through the gathering space (right). Leaving, one greets the unruly landscape of the cemetery (left).





1. *Taisha Bunka Place*
2. *Town hall*
3. *Fire station*
4. *Health center*

Set between the Hori River and a group of nondescript municipal buildings, the 63,000-square-foot T Hall draws visitors around the site with its curving form. The publically owned project cost $26 million to build.



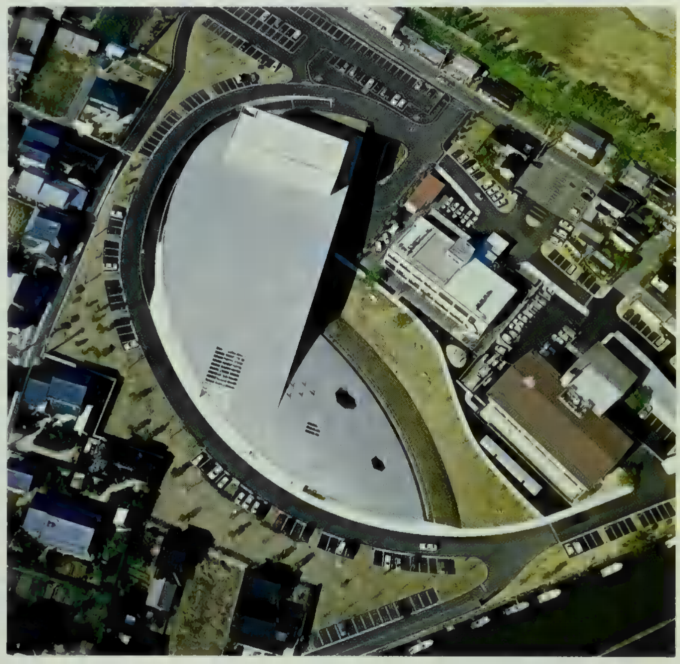
Toyo **Ito** brings disparate cultural and civic functions together under one great curving roof at **TAISHA BUNKA PLACE** in Japan

By Naomi Pollock, AIA

Taisha Bunka Place's most striking feature is its roof. Bold but understated, simple yet sophisticated, the roof bestows an air of monumentality on an unremarkable site and turns an informal civic building into a landmark. A public library, theater, and multipurpose center all in one, the T Hall, as the project is often called, primarily serves the 16,000 residents of Taisha, a coastal town on the Japan Sea 400 miles southwest of Tokyo. An agricultural area known for its grapes and wineries, Taisha is most famous as the home of Izumo Grand Shrine, one of Japan's most venerated Shinto monuments, whose wood buildings and forestlike setting draw two million tourists a year.

In 1993 the town held an invited competition for a new Kabuki theater to create an additional lure for sightseers, and awarded the commission to Tokyo architect Toyo Ito. But a year and a half later the town elected a new mayor who questioned the project—a common occurrence in Japan, where public works are often redirected following a change in government officials. Instead of a theater that would be used only a few times a year, the mayor thought his constituents would be better served by a building they could enjoy daily. In a series of meetings at which the town's inventory of public buildings was reviewed, local residents realized that their 30-year-old community center was outdated and could not compare to the state-of-the-art cultural facilities springing up all over the country as a result of a government building boom in the early 1990s. The town library was also in woeful need of an upgrade. Consequently, the competition program was scrapped and Ito started from scratch with the town's revised list of needs.

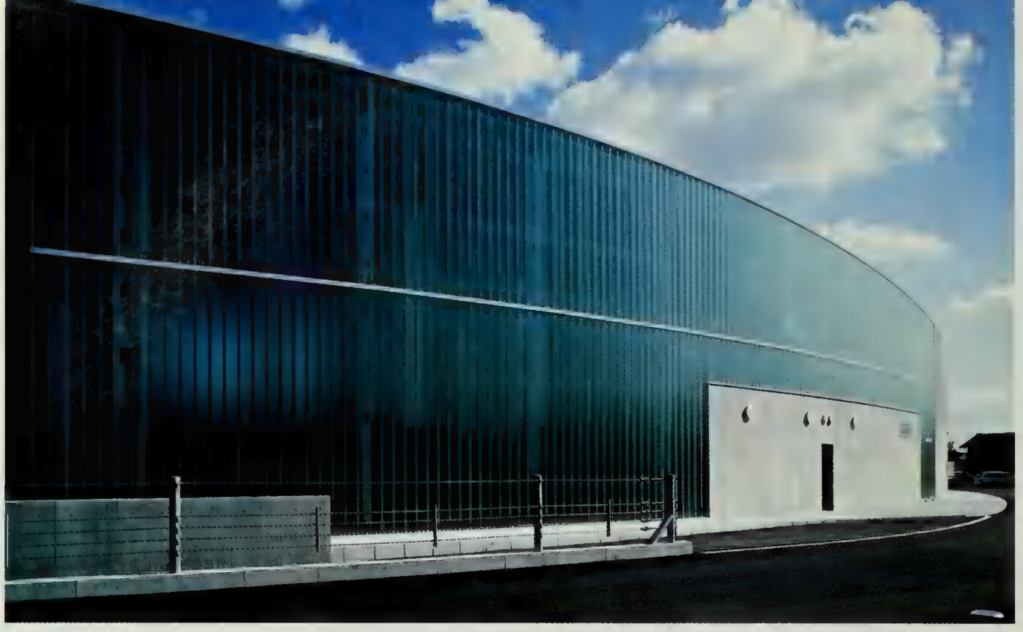
One of the few aspects of the transformed project to remain constant was the site: an irregular, C-shaped parcel bounded by modest, single-family homes to the west and nondescript municipal buildings to the east. Previously occupied by houses and a small factory, the site is off the beaten tourist track, beyond the town's main street, which also serves as the approach road to the Shinto shrine. Instead, it is wedged between two smaller streets near the Hori River across which a proposed bridge will someday provide greater access to the site. In response to these various conditions, Ito devised a curved building that facilitates movement around and through the property. "I think of it as a kind of linchpin," says the architect. One goal of this strategy was to create a building without a strong differentiation between front and back. In designing the project, says Ito, "it was difficult to know where to put the facade." Ultimately, he took his cues from nature and located the main entrance on the north side where it is maximally shielded from cold winter winds.



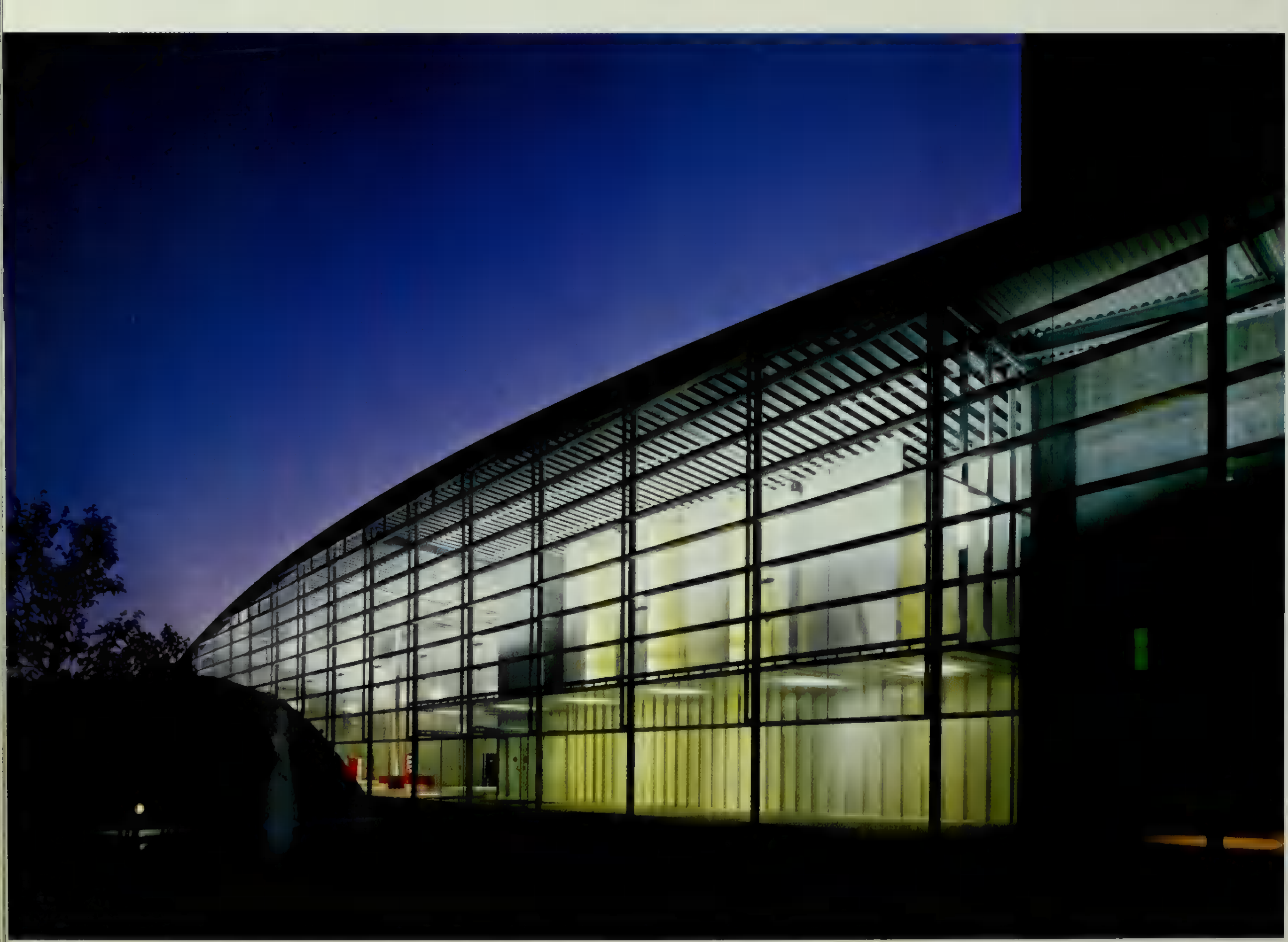
The building's great arched roof helps the 63,000-square-foot project fit into its context, bowing politely to its neighbors at either end after rising to a height of 39 feet near the main entrance. The roof is composed of two abutting planes—the larger one a shallow, single arc punctured by the theater's 69-foot-high flytower and the smaller one composed of three different arcs that segue into a gently sloping man-made hill. Though visually contiguous, the roof and hill are actually

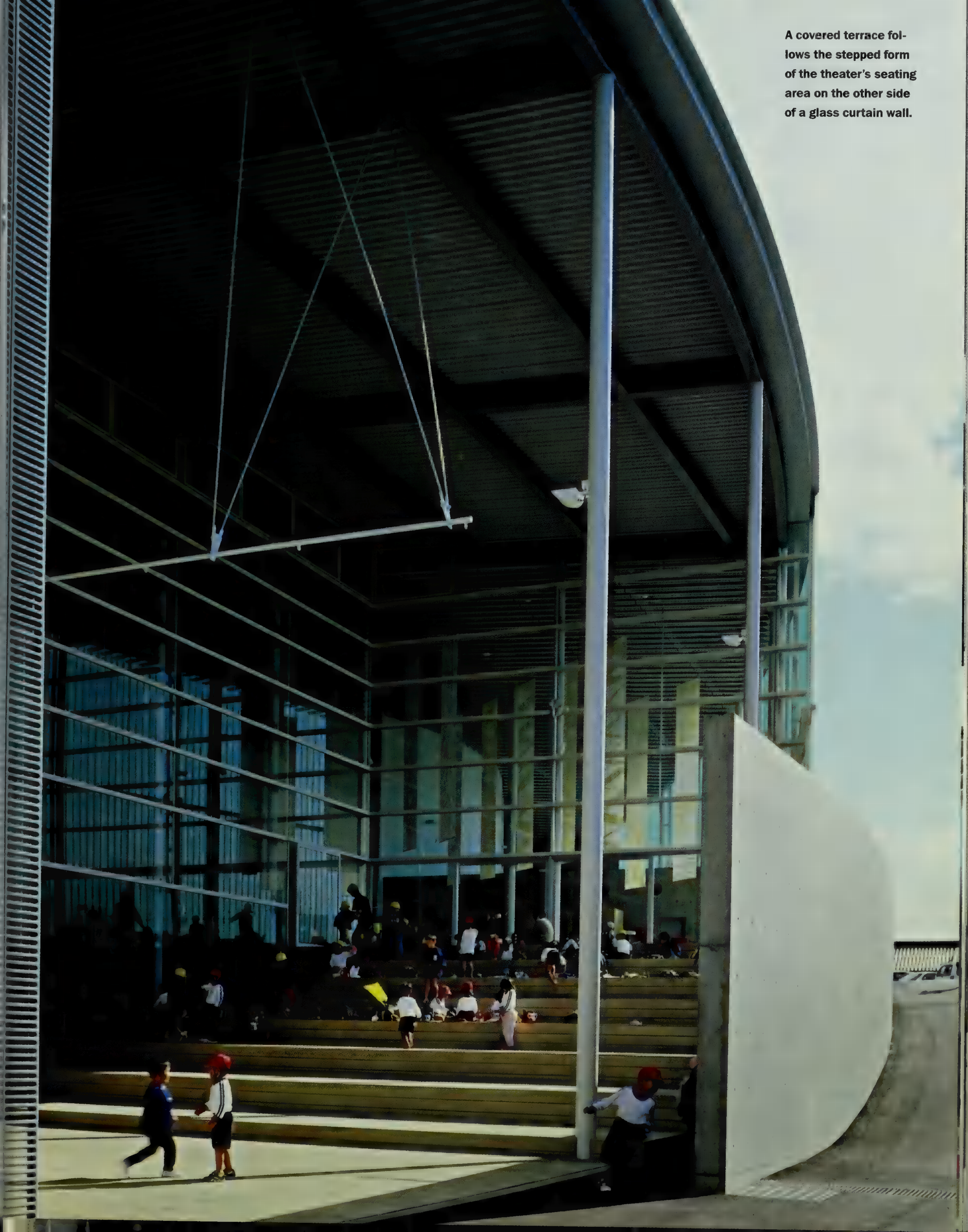
Naomi Pollock, AIA, *is* ARCHITECTURAL RECORD*'s Tokyo-based correspondent. She curated the exhibition* Japan 2000: Architecture for the Japanese Public, *at the Art Institute of Chicago in 1998.*

Project: *Taisha Bunka Place, Taisha, Japan*
Architect: *Toyo Ito & Associates—Toyo Ito, principal in charge*
Interior Designer: *K.T. Architecture/Hirono Koike + Yoshiaki Tezuka*
Engineer: *Sasaki Structural Consultants*
Consultants: *Nippon Koei Co. (landscape); Koizumi Sangyo (lighting); Nagata Acoustics (acoustics); Shozo Motosugi (theater planning and technology); Motoi Hattori (theater lighting)*
General Contractor: *Taisha Bunka Place Project Joint Venture (Konoike Construction, Nakasuji Corp., and Iwanari Industry Co.)*

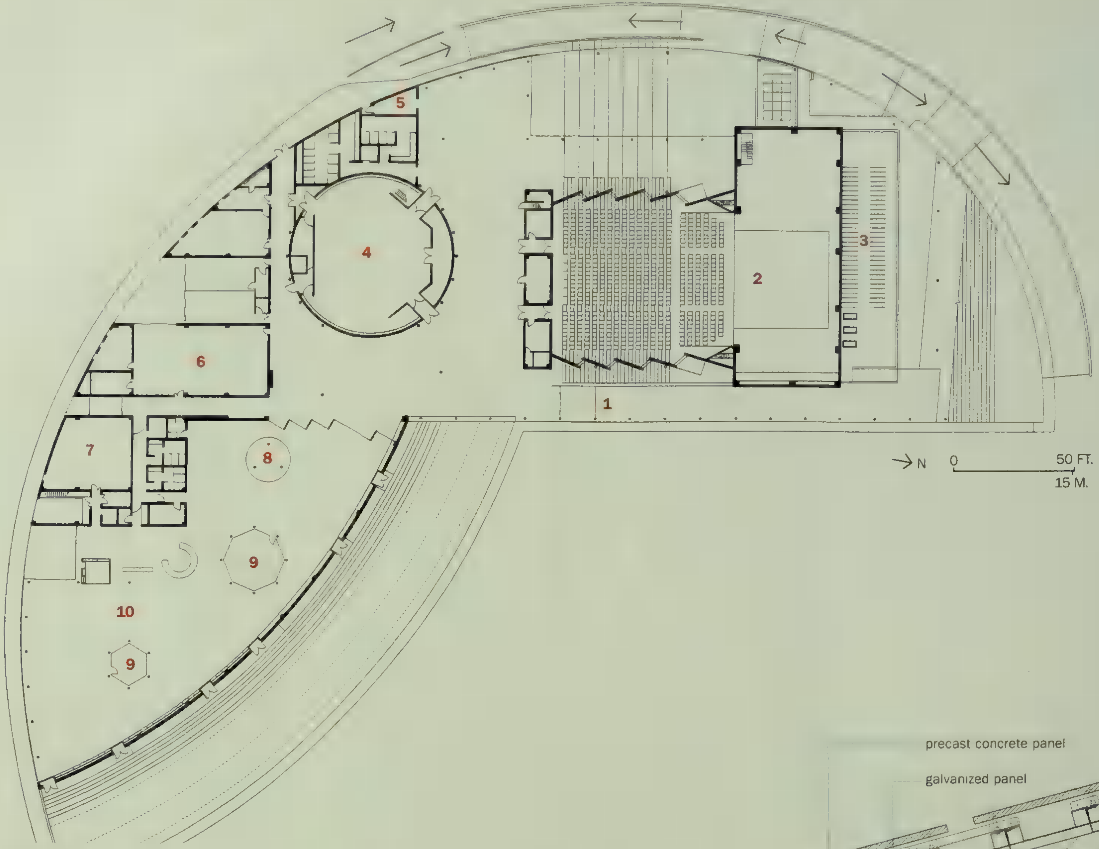


To bring a soft, diffused daylight into interior spaces, the architect used translucent glass panels around the building's periphery (left). On edges that are cut into the mass of the building or are protected from direct sun, Ito specified clear glass. The main entrance is on the north side (below), which is protected from sometimes bone-chilling winter winds.



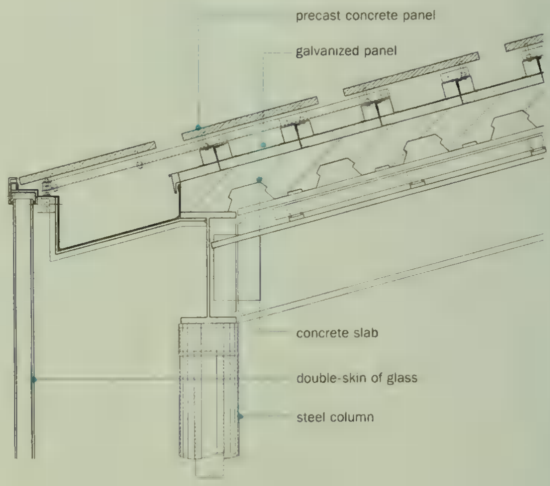


A covered terrace follows the stepped form of the theater's seating area on the other side of a glass curtain wall.



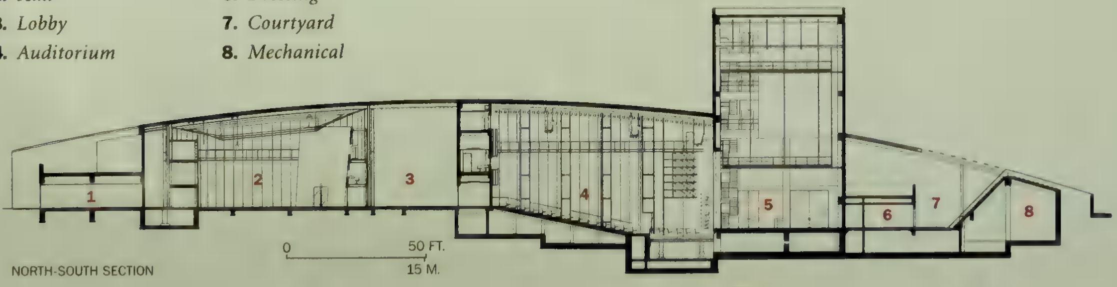
MAIN FLOOR

1. *Main entrance*
2. *Theater*
3. *Parking*
4. *Multipurpose*
5. *Kitchen*
6. *Office*
7. *Book storage*
8. *Children's corner*
9. *Courtyard*
10. *Library*

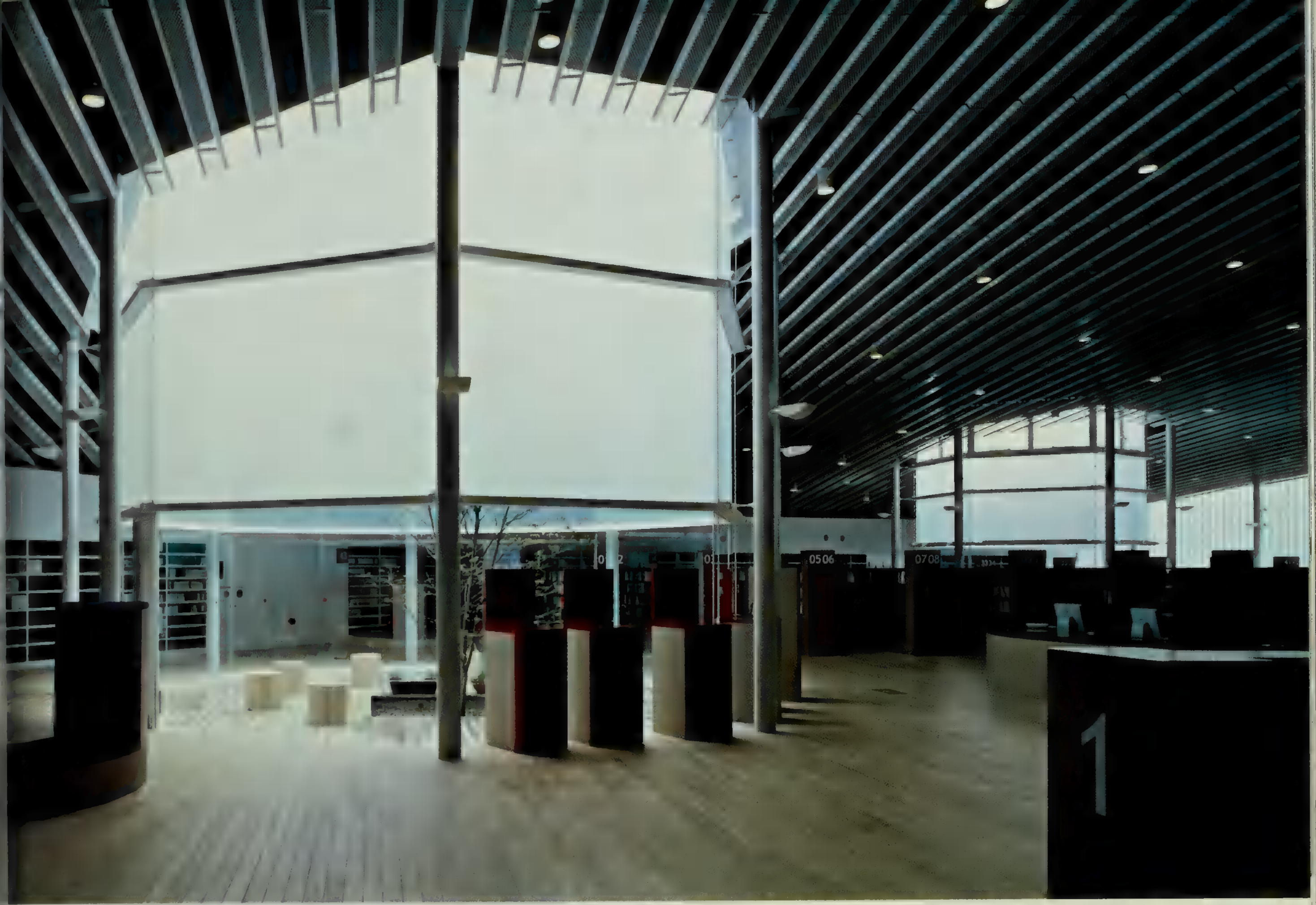


ROOF DETAIL

1. *Meeting*
2. *Hall*
3. *Lobby*
4. *Auditorium*
5. *Stage*
6. *Dressing*
7. *Courtyard*
8. *Mechanical*



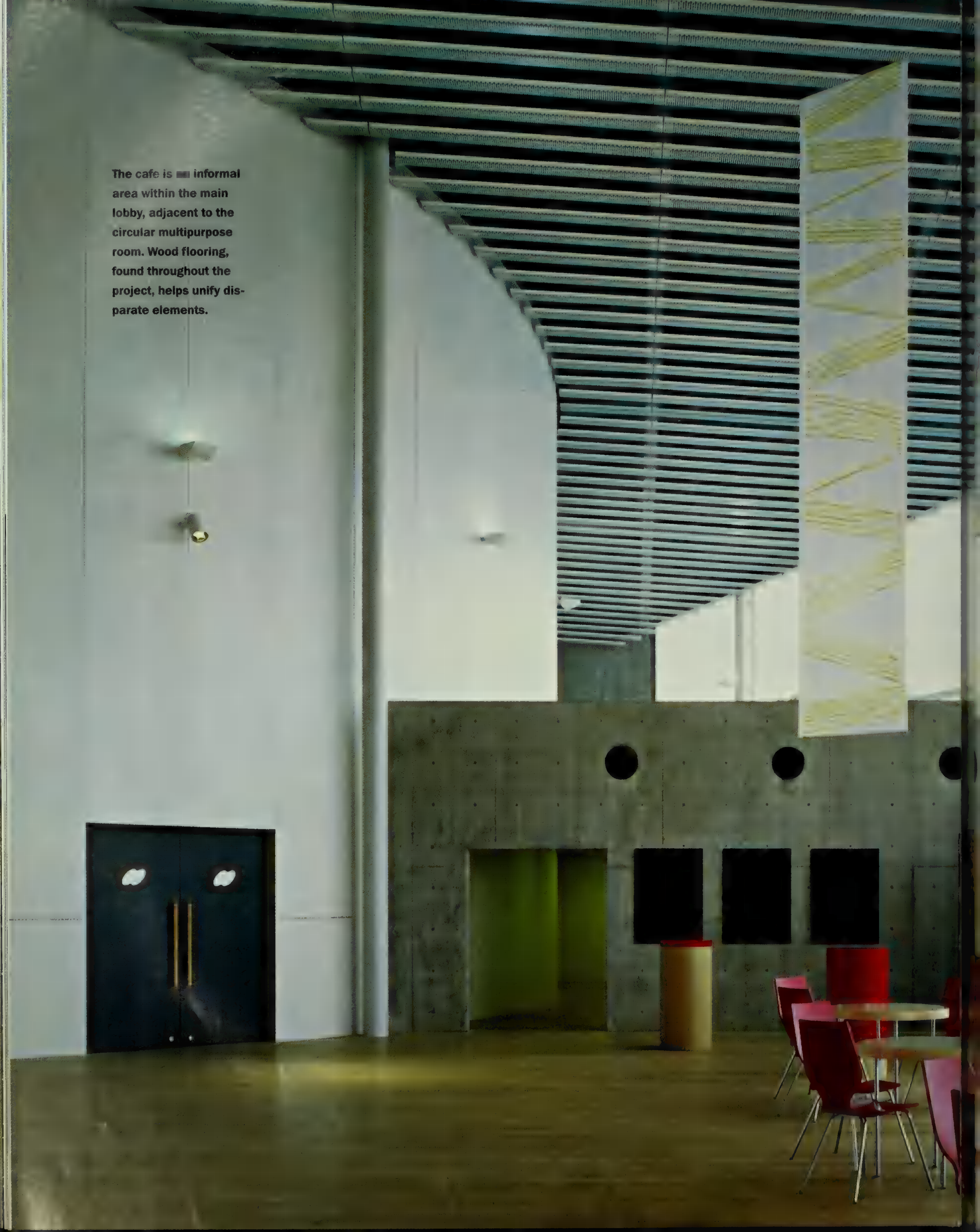
NORTH-SOUTH SECTION



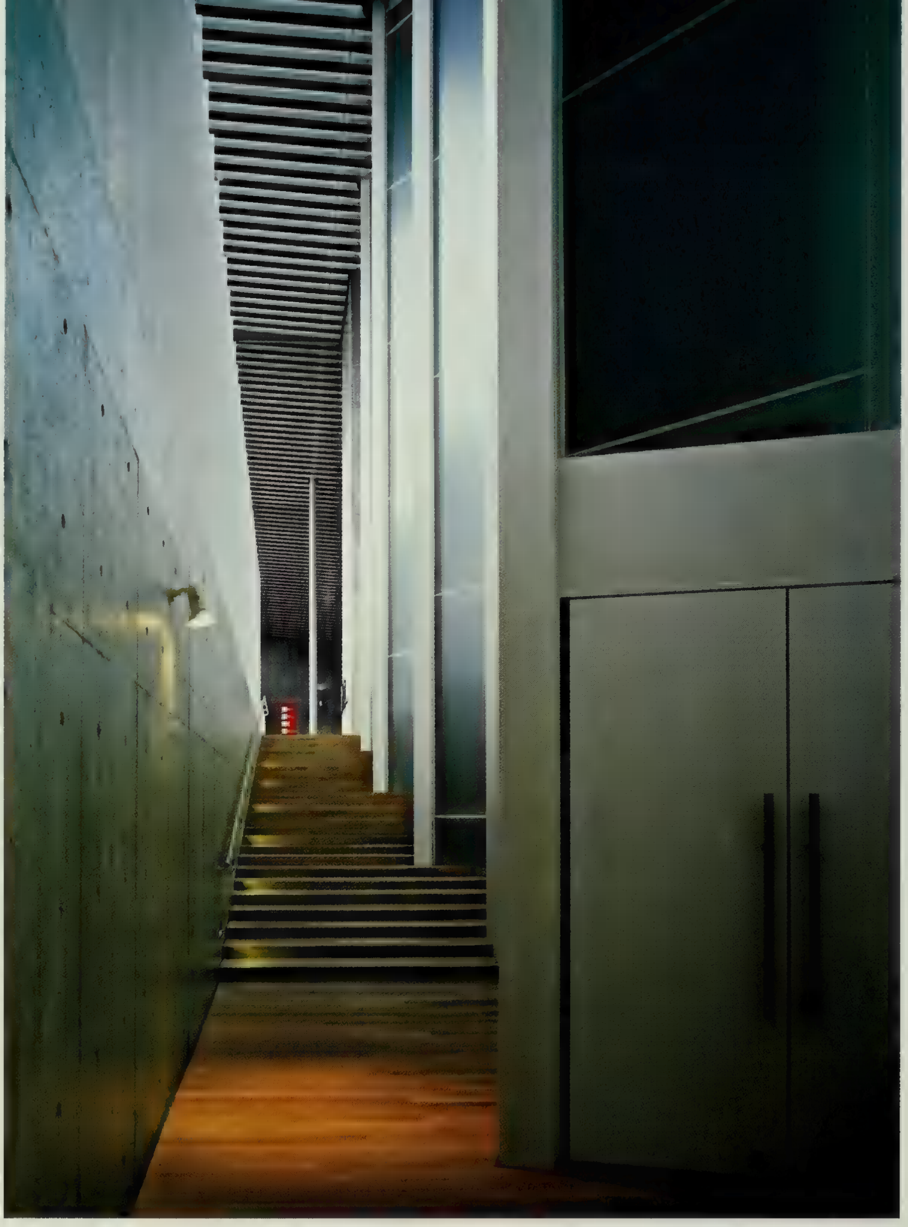
separated by a five-foot gap to deter people from climbing on top of the building. As if sliced off by a giant knife, the roof meets the perimeter walls precisely, revealing its 12-inch thickness. A composite of steel-deck plates, poured concrete, and precast-concrete panels colored with traditional calligrapher's gray sumi ink to complement the roof tiles of the surrounding houses, the roof is relatively light in construction. Slender steel columns, most just nine inches in diameter, support the building in combination with concrete walls.

Between structural walls the building is enclosed with two types of glass that blur the boundary between inside and out. Flat, translucent panels at the periphery conceal interior space during the day, but gradually become more transparent as the sun goes down, revealing shadowy movement inside. Two glass layers with an air pocket in between, the translucent walls also reduce heat loss and sound transmission. Where walls cut into the building's curving form to make entrances, courtyards or terraces, clear glass is used instead. Indeed, the facade is composed largely of clear glass sheets held in place by 16 structural columns that double as mullions. Suspended from steel rods, painted-aluminum-and-wood slats run horizontally between columns; spaced an average of three feet apart, the slats screen the lobby but let in the view of Mt. Misan to the north. Where the building cuts into the ground, Ito designed rust-colored

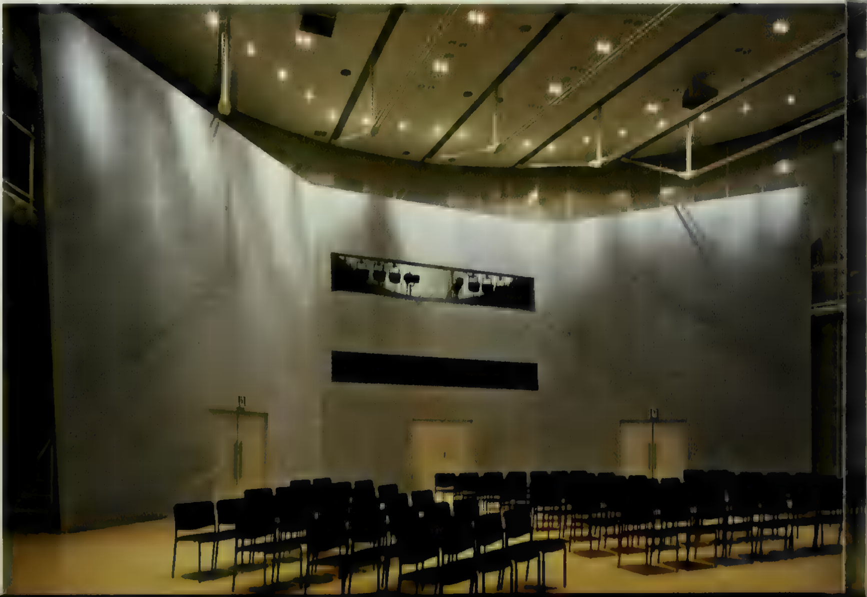
The library is one large space with courtyards, seating, and other elements floating within it (right and above).

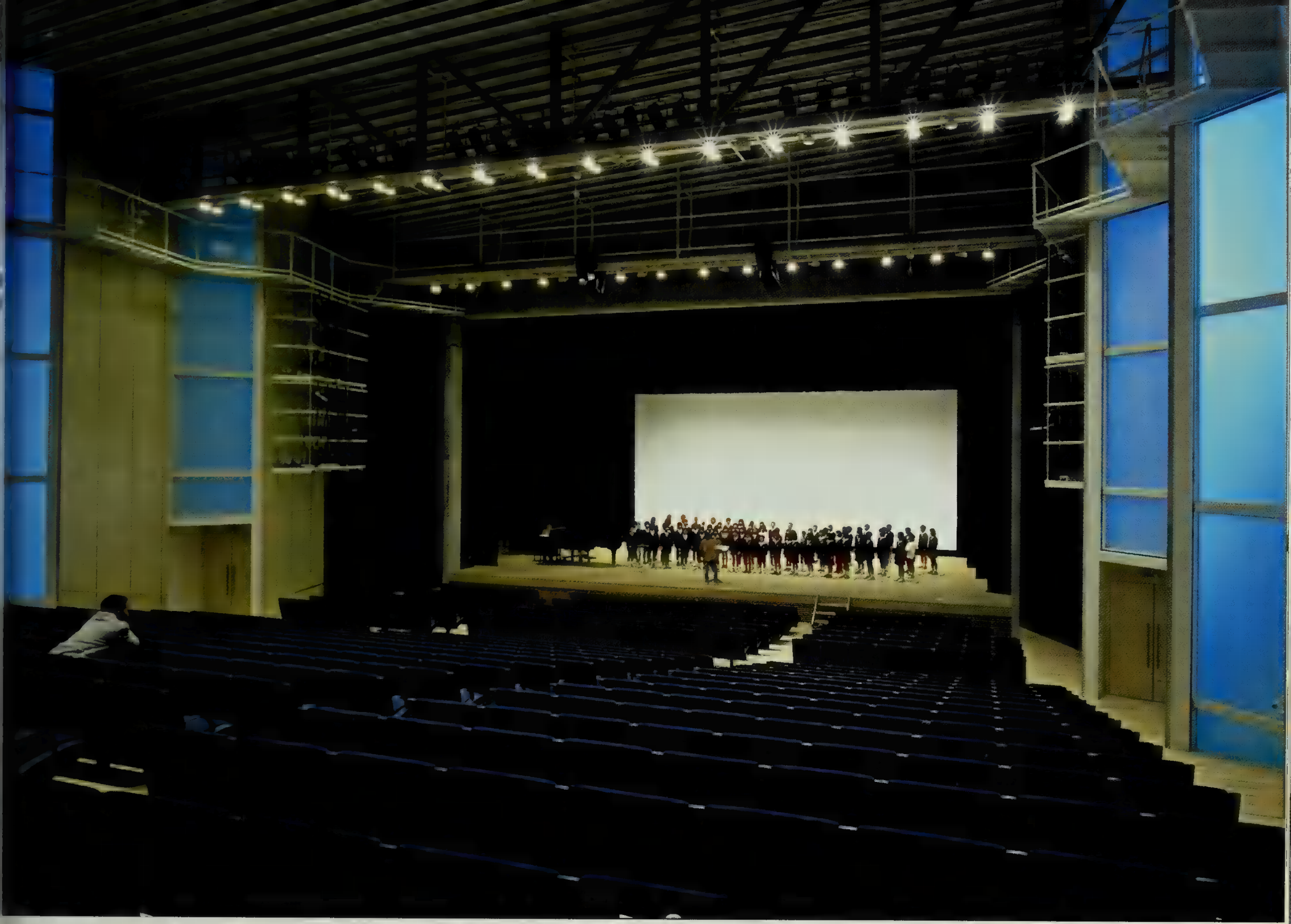


The cafe is [illegible] informal area within the main lobby, adjacent to the circular multipurpose room. Wood flooring, found throughout the project, helps unify disparate elements.



Translucent glass panels subtly introduce light from a stepped corridor (left) into the 600-seat theater (opposite). Seats in the front section of the theater can be removed and stored under the stage. The multipurpose room (below) can be set up for lectures, public presentations, and other events.





retaining walls that resemble the traditional *tsuchikabe* mud used for everything from traditional temples to teahouses.

Inside, an expansive wood floor provides a warm and informal accent and ties together the building's disparate elements. In the lobby the floor wraps around a 56-foot-diameter circular multipurpose room and then goes on to become part of the lounge, an open area dotted with red tables and chairs. It also crosses over into the theater, where it turns into the aisles' gentle steps.

The theater can accommodate up to 600 people. But because there are few occasions when the entire hall is filled, 162 chairs up front can be collapsed and stored underneath the stage. Using eight hydraulic lifts, a facility crew can raise the seating floor to extend the stage or can make the stage smaller by partitioning it off with a screen. Dressing rooms—two Western style and two fitted out with tatami mats—and other stage-support areas are directly behind the theater, so performers can move easily from makeup table to spotlight. While most theaters are sealed off from the outdoors, this one makes connections with floor-to-ceiling translucent glass panels set in its walls and a stepped terrace outside that echoes the seating tiers within.

At the other end of the building, a soaring library space with storage capacity for 100,000 volumes is visible from the lobby through a clear glass wall. The library is defined by a thick, curving wall lined with bookshelves and an adjacent translucent-glass wall highlighted by one long desk with seating for 22. Set within the sprawling space are a children's reading corner, video-viewing cubicles, a forest of low shelves, and two courtyards—one open so bookworms can bask in the sun and the other a garden for eyes only.

Something of a maverick when it comes to public works, Ito wanted both the library and theater to be even more open and the boundaries between them and other elements even less distinct. But government officials were wary of blurring the lines between programmatic elements, and some local residents considered putting the theater and library together under one roof as plenty bold. Yet Taisha Bunka Place, with its striking yet approachable form, has succeeded in creating a strong presence in a place where none had existed before. ■

Sources

Steel curtain wall: *Yamaki Industrial Co., Ltd.*

Curtain-wall glass: *Nippon Sheet Glass Co., Ltd.*

Built-up roofing: *Fujita Kenzo Co.*

Theater seating: *Kotobuki Co., Ltd.*

Library chairs: *Idee Co., Ltd.*

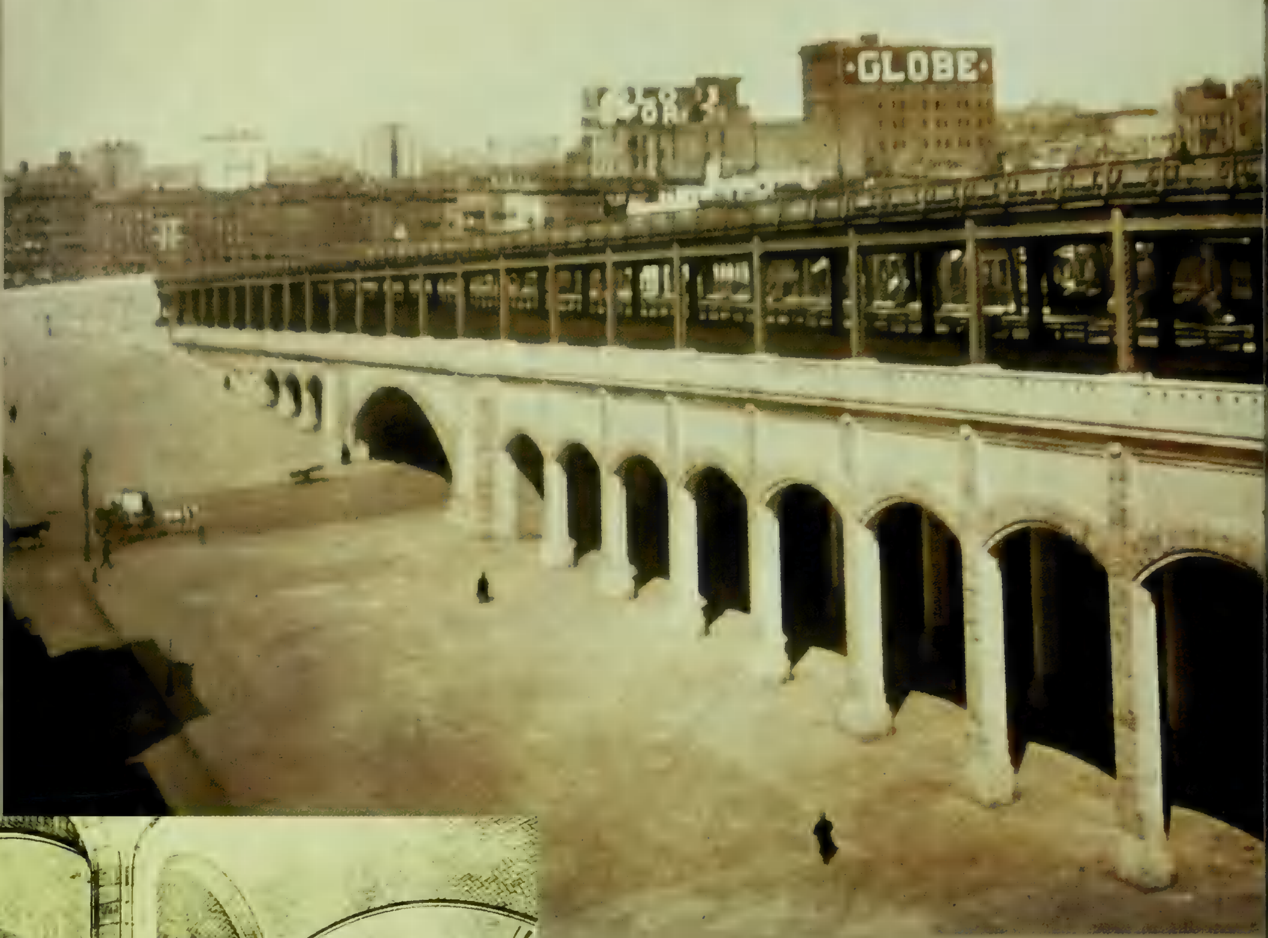
Library tables: *Sobi Co., Ltd.*

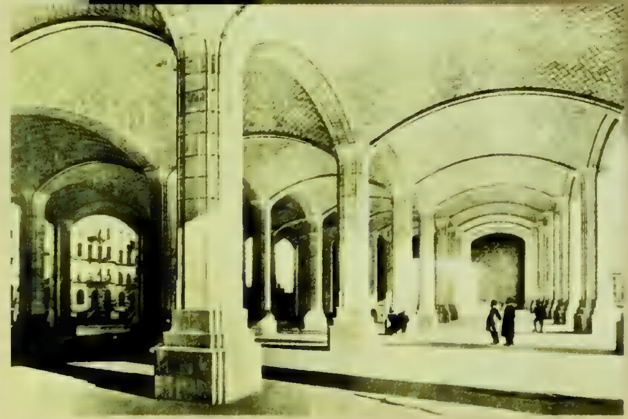
Downlights and task lighting: *Koizumi Sangyo Corp.*

Interior ambient lighting: *Koizumi Sangyo Corp.*

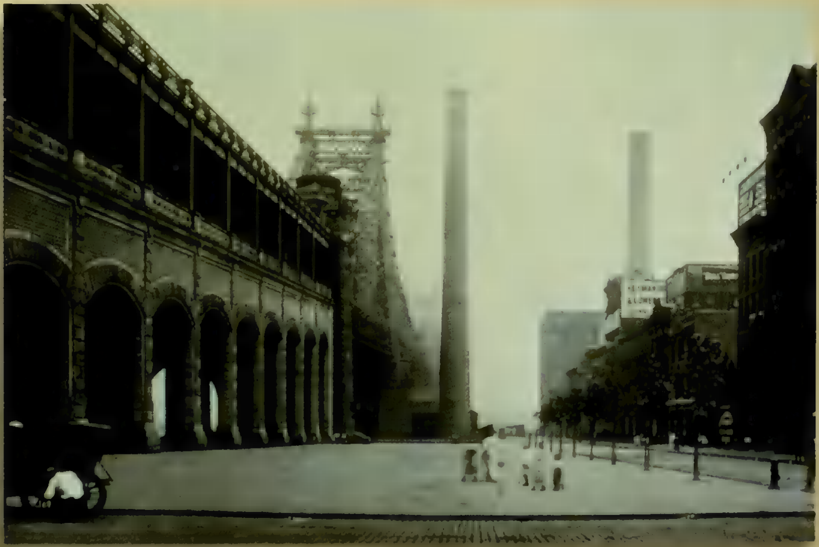
Stage construction: *Morihei Stage Construction Co., Ltd.*

WWW *For more information on the people and products involved in this project, go to* ***Projects*** *at:* ***www.architecturalrecord.com***





From its inception, the technologically sophisticated Queensboro Bridge has synthesized monumental architecture, seen here in the bridge's Manhattan approach (top), public space, dramatically shaped by Guastavino vaults (center), and adjacent open space (bottom).



PROJECT DIARY New Yorkers are singing the 59th Street Bridge song as they discover BRIDGEMARKET in a century-old space

By Thomas Mellins

Since its completion in 1908, the Queensboro Bridge has become the stuff of legend, a fabled gateway to a magical city. Its significance exceeds its roles as a major conveyor of traffic and an armature for electrical lines, and even goes beyond its grand visual contribution to the cityscape. In his novel of 1925, The Great Gatsby, *F. Scott Fitzgerald proclaimed, "The city seen from the Queensboro Bridge is always the city seen for the first time, in its first wild promise of all the mystery and beauty in the world."*

But cities are not composed exclusively of celebrated landmarks; cities also keep their secrets, holding fascinating places out of reach for natives and visitors alike. These places remain, in effect, hidden in plain sight until an individual or a group, equipped with sufficient knowledge and vision—not to mention organization, drive, and money—brings them back into the public realm. The soaring, vaulted space beneath the Manhattan approach to the Queensboro Bridge, between First and York Avenues and 59th and 60th Streets, was such a place, long shrouded in obscurity.

For nearly three decades, efforts to renovate the space now known as Bridgemarket constituted a roller-coaster ride through booms and busts, endorsements and protests, lawsuits and countersuits, traditionally inspired designs, and Modernist ones. In time, it was not only the bridge that possessed a mythic significance but also the plans to restore it. Ultimately, it took the sustained efforts of architects, developers, community leaders, and a host of city officials and municipal agencies to bring Bridgemarket to fruition.

Building bridges of communication and cooperation was as key to the project as restoring the landmark bridge itself. Throughout the long process of design and construction, all those involved faced two principal challenges: Could they respect the integrity of the bridge and simultaneously create a compelling commercial destination? And could they create a place that would be both a big draw and a public amenity valued by the adjacent neighborhoods?

1893–1918

A city on an island has two choices when it comes to growth: It can build skyward or can expand to the other side of the water. Nineteenth-century New York chose to do both.

In 1893, 10 years after the Brooklyn Bridge's completion forever changed New York City geography, plans were submitted for a second bridge spanning the East River. The project languished. Six years later, a design by Leffert L. Buck, an engineer who had worked on the Brooklyn Bridge, was selected. Public reaction to his utilitarian design was overwhelmingly negative. A newly appointed commissioner of the Department of Bridges, the engineer Gustav Lindenthal, worked with the architect Henry Hornbostel to redesign the structure, first known as Blackwell's Island Bridge. In 1908 the name changed to the Queensboro Bridge.

Lindenthal and Hornbostel turned to Louis-Jean Résal's Pont Mirabeau in Paris for inspiration. This European bridge was not a surprising design source; it was completed in 1895 when Hornbostel was a student at the École des Beaux-Arts.

The 7,000-foot-long Queensboro Bridge is at once practical and poetic. The roadways of the steel cantilevered bridge—the first of its type in New York—are ingeniously double-decked, allowing the structure to be elegantly narrow.

The steel skeleton of the bridge's Manhattan approach is sheathed in a terra-cotta-and-granite skin. In the residual space beneath the approach, rows of massive columns, covered in cream-colored terra-cotta tiles, support a canopy of tiled vaults crowning 30- by-30-foot bays. The bays vary in height—from 24 to 44 feet tall—because the ground slopes down

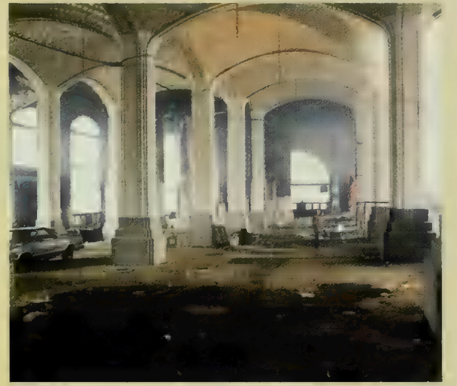
Thomas Mellins is an architectural historian and the coauthor of three books on the architecture and urbanism of New York City: New York 1880, New York 1930, *and* New York 1960.

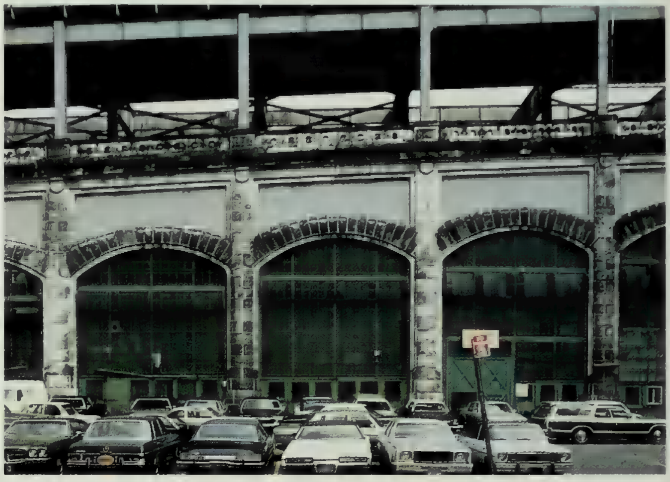
Project: *Bridgemarket, New York City*
Owner: *City of New York*
Design Architect: *Hardy Holzman Pfeiffer Associates (Bridgemarket); Conran & Partners (Guastavino's and The Terence Conran Shop); In-House Design Team—Sam Burman, VP Planning & Design (Food Emporium); Rosenbaum Design Group (Food Emporium interior architecture); NYC Dept. of Transportation (tile restoration)*
Architect of record: *HHPA (Guastavino's, The Terence Conran Shop)*
Structural Engineer: *Goldstein Associates, Consulting Engineers, P.C.*
MPE Engineer: *Altieri Sebor Wieber; Clive Samuels & Associates*
Landscape Design: *Lynden Miller*

The Guastavino Fireproof Construction Company: The Spanish architect Rafael Guastavino y Moreno founded the Guastavino Fireproof Construction Company in New York in 1889, eight years after emigrating from Barcelona. The company specialized in terra cotta–tiled vaults, domes, and other architectural elements. Guastavino initially explored the possibilities of poured concrete as a fireproof material but was later convinced of the superiority of tile and believed in the enduring value of masonry. Adapting a time-honored Spanish vernacular building technique known as *boveda catalana* (Catalan vault), Guastavino developed a method in which tile courses were joined with a mix of Portland cement and Cow Bay sand.

The Guastavino Company's tiles were usually 6 inches wide, 12 inches long, and 1 inch thick—a dimension reputedly determined by the largest size a mason could pick up in one hand. Applied in a basket-weave pattern, the tiles were capable of spanning greater distances at a lower rise than stone. Furthermore, the company's total control over the design, production, sales, and installation of its tiles increased the speed and economic viability of construction.

Though trained as an architect, Rafael Guastavino y Moreno officially worked, after 1885, as a contractor and inventor. Upon his death in 1908, his son, Rafael Guastavino y Esposito, took over. The company worked with many well-known architects, including Henry Hornbostel; McKim, Mead & White; Warren & Wetmore; and Carrère & Hastings. Overshadowed by their famous collaborators, the Guastavinos were nearly forgotten by history. Largely through the efforts of the late George Collins, as well as Janet Parks, Alan G. Neumann, Angela Giral, and others at Columbia University, documentation of the Guastavinos' remarkable work has been preserved and their historic contribution more widely recognized.





toward the river, while the roof, supporting the roadways above, slopes up from the city streets to the bridge's river-crossing segment. The vaults contain four layers of backing tile and one layer of so-called face tile; each vault contains more than 1,600 face tiles.

To articulate and build this grandly proportioned hypostyle hall, Lindenthal and Hornbostel relied on the services of the Guastavino Fireproof Construction Company.

From the first, the space was intended to function as a farmers' market, with Long Island produce coming in over the bridge. The market was announced by cornucopias carved in stone on the bridge's towers. So successful was the operation that in 1916 the 120-by-275-foot marketplace was glazed for year-round use. Two years later, to supply the market's vendors with water, Evangeline Wilbour Blashfield, an early supporter of the Municipal Art Society, financed the construction of a granite fountain designed by Charles W. Stoughton. A carved bull's head functioned as a waterspout, and a colorful mosaic portrayed the figure of Abundance.

The marketplace flourished throughout the 1920s but could not survive the Great Depression. In the 1930s, the New York City Department of Transportation (DOT) took over the space for use as a sign-painting shop, storage area, and parking garage. With utility triumphing over lively civic activity, the area surrounding the bridge gave way to industrial marginalia. As decades passed, the bustling marketplace faded from collective memory.

1918–1976

In 1972, the Office of Midtown Planning and Development launched the Queensboro Bridge Area Study, which catalyzed preservation and redevelopment initiatives. Referring to the former marketplace as "the cathedral," the study called for landmarking the bridge. The New York City Public Development Corporation advocated reuse of this city-owned space and initiated what would evolve into an elaborate, decades-long dance between public- and private-sector players.

In time, the PDC and its successor agency, the New York City Economic Development Corporation, would see the project through completion and coordinate all work between the developers, architects, and municipal agencies.

In April 1973, the New York City Board of Estimate approved a proposal to lease the space to the American Cinematheque at an annual rent of one dollar. Named after its Parisian counterpart, the proposed film center, designed by I. M. Pei & Partners in New York, was at once bold and site-sensitive: The design called for a mezzanine and, on an adjacent plaza, a drumlike theater adorned with supergraphics announcing the complex's name. In 1975, the project was terminated due to lack of funds, and the former marketplace, though given landmark status in 1974, remained largely unknown to the public.

Plans to transform the space into the International Fair, housing a mix of food shops, restaurants, boutiques, and movie theaters, were presented in 1975. Within two months, Community Board No. 8, representing the area directly to the north of the bridge, voted down the project, charging that it would cause congestion. The plan was derailed, reflecting the increasing decentralization of governmental power, the public's growing concern with density, and the widening rift between neighborhood groups and developers. With a nationwide recession in effect and the city government headed toward its own economic collapse, further development prospects looked bleak.

The nation's bicentennial, with its spectacular parade of tall ships in New York harbor, ushered in a period of civic pride and renewal. In the spring of 1977, the City Council's State Legislative Commission approved a proposal by the developer Harley Baldwin for a multilevel food market and restaurant complex under the bridge. As designed by the

New York City and Los Angeles firm of Hardy Holzman Pfeiffer Associates (HHPA), the development would incorporate a plaza with two historically referential, gable-roofed market buildings and a greenhouse, as well as an open area containing the Blashfield fountain. The Landmarks Preservation Commission approved HHPA's concepts for both interior and exterior renovation. The Board of Estimate and the City Council also approved the proposal, but progress was stymied by the New York State Assembly Committee on Cities, which argued that the city was getting a raw deal in its leasing agreement with Harley Baldwin.

1976–1996

In 1983 Baldwin established a partnership, Bridgemarket Associates, with Sheldon M. Gordon, who later stated that he immediately "fell in love with the space." The developers secured a contract with the PDC and sought to establish a marketplace for 50 to 60 independent food purveyors, modeled on the great food market in Lyon, France. The city granted a lease and subsequently altered it, potentially allowing the project to increase in size from 64,000 to 132,000 square feet. On July 8, 1986, the Landmarks Preservation Commission unanimously approved an enlarged scheme by HHPA. Less than a year later—and 14 years after the city first approved leasing the space to a commercial enterprise—ground was finally broken.

After only 10 months, construction was halted by a lawsuit brought by the Sutton Area Community, Inc., representing an affluent neighborhood just south of Bridgemarket, which sought to block the enlarged project. The group feared the project's impact on the area and charged that the city and Bridgemarket Associates could not legally proceed without additional approval from the Board of Estimate. The developers lost their title insurance and Bridgemarket's lenders suspended their financial commitments. Other suits, countersuits, negotiations, compromises, and two court rulings in favor of the community group followed, almost burying the project forever.

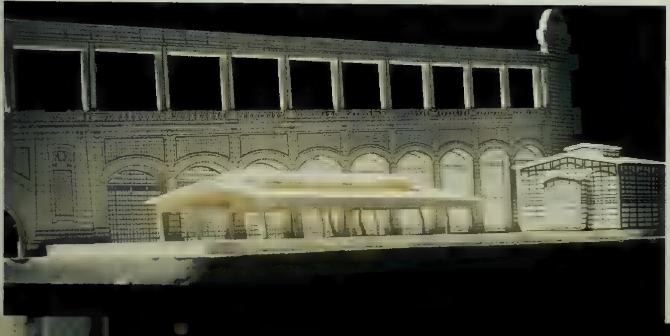
In 1993, while awaiting a third court ruling, the community group proposed new uses for the site, including a museum of transportation, sculpture garden, or sports center. In 1994 New York State's highest court, the Court of Appeals, ruled against the Sutton Area Community, Inc., arguing that the city and developers had received all necessary approvals, and Bridgemarket went forward.

1996–2000

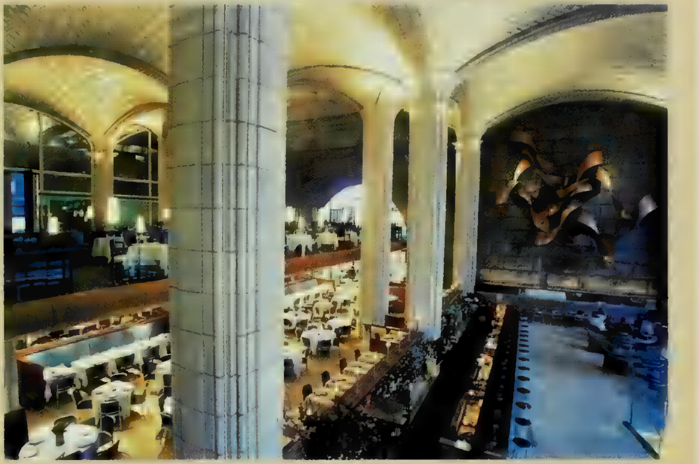
In 1996, as part of a $42 million government-funded restoration of the bridge, the DOT began to restore the Guastavino tiles, many of which were in excellent condition, despite the vibrations and severe weather endured by the bridge for nearly 90 years. Still, around half of the face tiles had to be replaced and four vaults at the eastern end of the hall completely rebuilt. The DOT also began replacing the former marketplace's exterior industrial sash with specially designed frames containing double-pane glass panels that are both energy-efficient and stylistically appropriate to the landmark structure.

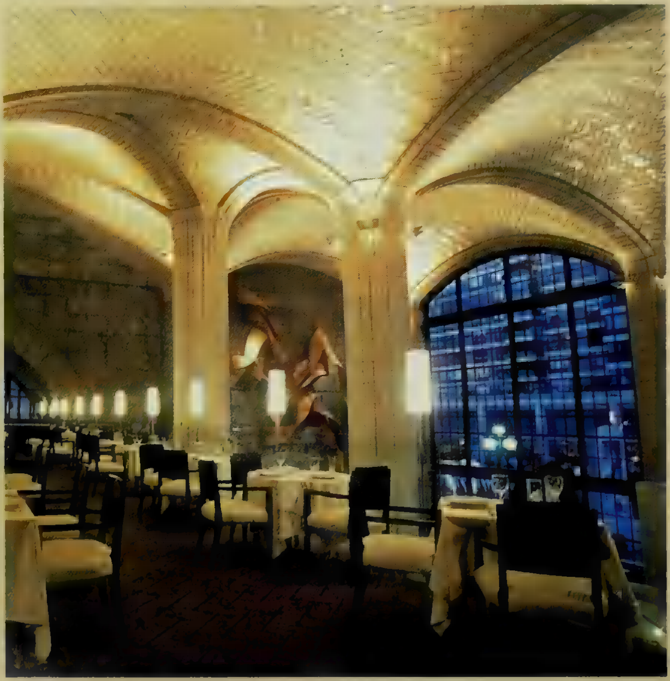
By this time, Bridgemarket's leases with individual tenants had expired, and dramatic downshifts in the real-estate market led to a restructuring of the project to involve only two tenants. Bread and Circus, a chain of food stores, leased 38,000 square feet, occupying six vaults. Conran Holdings—the London-based operation of retailer, restaurateur, and designer Sir Terence Conran—had been looking to open a Terence Conran Shop, featuring furniture and housewares, in New York. The Terence Conran Shop (Manhattan) leased 35,000 square feet at

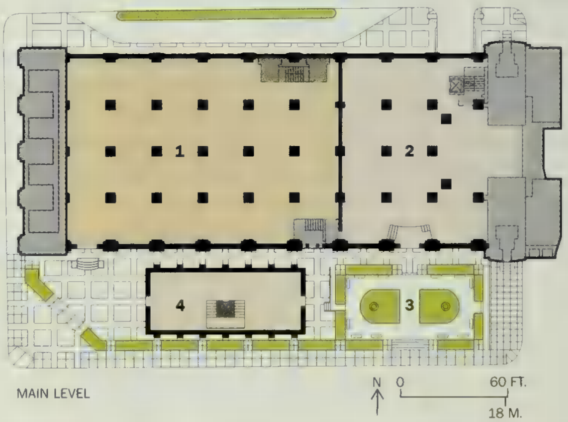
In time, the bridge physically deteriorated and the area around it was degraded as a parking lot (opposite, top right). Excavation for Bridgemarket (above right) began in 1987 but was halted the following year. Hardy Holzman Pfeiffer Associates' early plans called for historically referential market buildings (below and right).



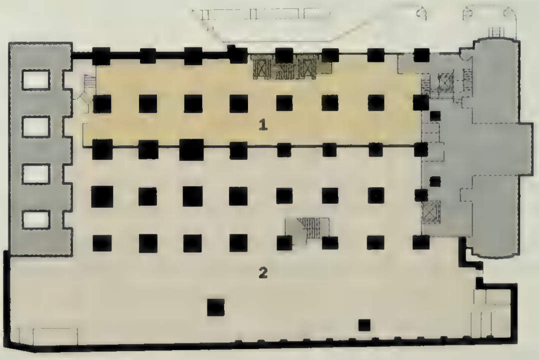
Guastavino's Restaurant: Ever since the restaurant opened in February, crowds have been flocking to Guastavino's voluminous recesses. The bar in front soars to a dramatic 44-foot height (below); behind it, an independent steel frame structure allows double-decker dining with a brasserie on the ground floor and a posh club-type restaurant above (bottom). A spiral stair, clad in off-white marble, sweeps up to the hull-shaped mezzanine faced in cherry wood. Other than those stunning moments, the interior fittings are bland; Conran & Partners opted for a non-design look with metal chairs and banquettes on the ground floor, and wood chairs and carpeting above. There is Space. Heightening the architectonic quality of the interior is halogen uplighting attached to piers. In contrast, downlighting with two-inch apertures in the soffit of the brasserie ceiling gives that space a sense of intimacy. A striking effect (when crowds thin out enough to see it) is the laminated glass bar siding with fiber-optic lighting, which also emits a glow through glass rondels in the aluminum counter. The most unfortunate lighting comes from the aggressively harsh glare of the metal halide streetlamps in the courtyard. Evidently, the lamps, very visible through the glazed arches, were installed with the wrong color. But reportedly this is being corrected. *S.S.*





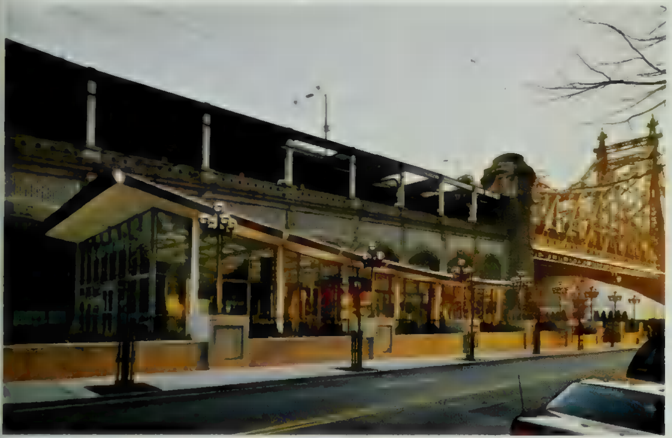


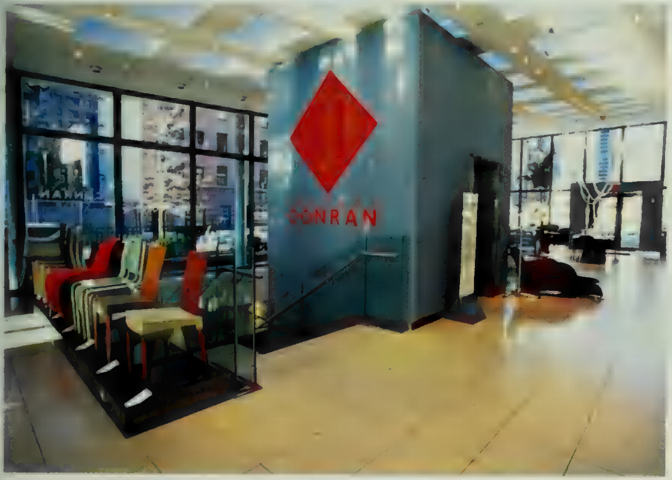
MAIN LEVEL

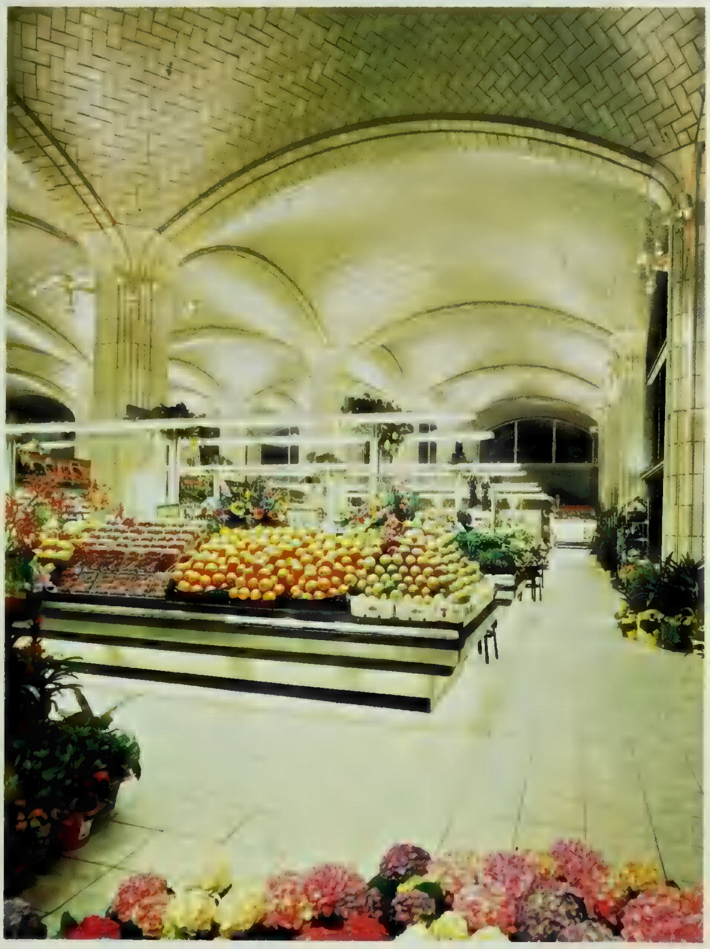


LOWER LEVEL

1. *Food Emporium*
2. *Guastavino's*
3. *Landscaped plaza*
4. *The Terence Conran Shop*

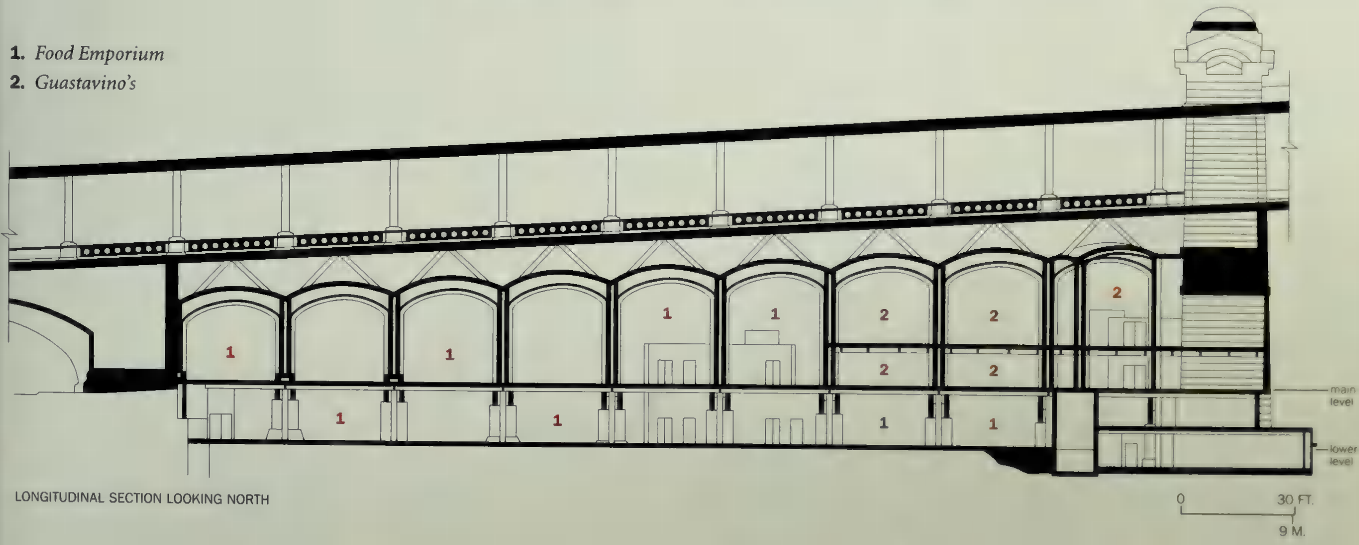






As realized, the elegantly articulated Modernist forms of the Terence Conran Shop (above top and bottom) provide a striking contrast to the muscular 19th-century bridge. Landscaped open areas (opposite, top right) play an important role in the overall project. Incorporating all the requisite features of an up-to-date supermarket, the Food Emporium respects the existing architecture and leaves the soaring vaults clearly visible throughout the space (above).

1. *Food Emporium*
2. *Guastavino's*

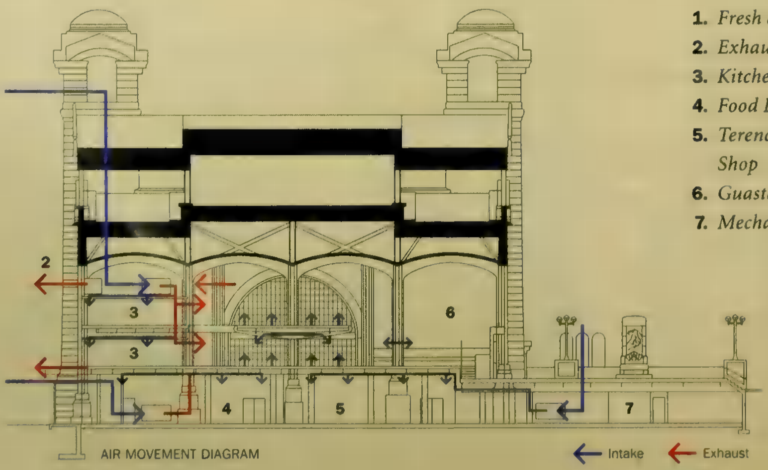


LONGITUDINAL SECTION LOOKING NORTH

At night, Bridgemarket serves as a beacon and a destination within a rapidly redeveloping section of the city (this page and opposite).

Technical Challenges: Building beneath the Queensboro Bridge presented significant technical challenges. Landmark guidelines barred any new penetrations in the existing structure. Furthermore, no additional loads could be placed on the bridge. All new columns and slabs, including the level floor that replaced the sloping, unpaved ground of the former marketplace, required complete structural independence from the bridge. Imposed by necessity, this feature had an advantage: It obviated the potential problem of vibrations from overhead traffic disrupting diners below.

Integrating the mechanical systems of the restaurant and market was particularly difficult. The north and south facades have glass curtain walls with limited louvers, and because the bridge's roadways are located directly above, no usable space exists above the vaulted ceiling. Ducting could not be embedded in the walls or hung from the ceiling, so how could the architects provide the modern infrastructure necessary for large-scale commercial operations? All mechanical systems rise from beneath the floor slab with services grouped together as much as possible. The architects threaded ductwork through available interstices: inside the restaurant's new mezzanine, in the casework between the supermarket aisles, and in a former elevator shaft within one the bridge's stone piers (once used to transport pedestrians to the marketplace). In the Terence Conran Shop, glass walls and an extensively glazed ceiling presented similar problems; there, ducting was clustered around the elevator shaft and the vestibules. The ingenuity is impressive. Despite the complexity of the problem, as HHPA senior associate Pam Loeffelman, AIA, puts it, "Bridgemarket has a certain 'Look Ma, no hands!' quality to it."



AIR MOVEMENT DIAGRAM

1. *Fresh air intake*
2. *Exhaust*
3. *Kitchen*
4. *Food Emporium*
5. *Terence Conran Shop*
6. *Guastavino's*
7. *Mechanical rooms*

Bridgemarket, 32,000 square feet of it below grade. Additionally, Guastavino's Inc., owned by Conran Holdings and Joel Kissin, leased, for a restaurant, 26,000 square feet beneath the three tallest bays at the eastern end of the vaulted space.

Conran & Partners was particularly excited about the historic, vaulted space, and confident that it could be transformed into a visually dynamic and functionally effective restaurant. This sense of assurance was in part based on previous experience; the firm had turned several architecturally significant, but neglected, spaces into some of London's leading restaurants, hotels, and shops. Conran & Partners, working with HHPA, planned to slip a mezzanine into the restaurant space and add a glass-and-steel partition between the market and the restaurant, as well as one between the restaurant's dining areas and kitchens. Additionally, the earlier scheme for historicizing market buildings on the plaza was replaced with a proposal for a Modernist, glass-walled pavilion to serve as the entrance to the Terence Conran Shop.

The New York City Landmarks Preservation Commission gave its third and final approval to the long-evolving project.

As built, the Terence Conran Shop has a concave, curved, metal-edged roof, perforated with a grid of glass-block skylights, providing a visual foil to the monumental bridge. Below grade, the extensive selling area is punctuated by the bridge's massive footings, a powerful reminder of the landmark's presence. To James Soane, Conran & Partners' project director for Bridgemarket, the "archaeology of the piers makes being underground much more interesting and enjoyable."

Inside Guastavino's, the space has been transformed to meet the functional requirements of a restaurant, without diminishing the feel of the existing architecture. The restaurant has three distinct areas, each with a different program: a bar near the entrance, an informal bistro on the same level, and a more formal restaurant on the mezzanine. Separate kitchens service each level. The bar area includes a striking wall sculpture, made by the artist Thomas Heatherwick of twisting strips of birch plywood. Modernist in style, the architectural interventions complement, rather than mimic, the vaulted space, though custom-designed carpet on the mezzanine level wittily adopts the basket-weave pattern of the tiles overhead. The mezzanine, as HHPA founding partner Hugh Hardy, FAIA, puts it, was "designed and detailed as if it were a piece of fine furniture." Soane also discerns in the design of this riverside restaurant a subtle narrative aspect: The mezzanine, with its sensuously curved, timbered underbelly, abstractly evokes a boat form, while the colors and textures of the dining space below suggest an urban beach.

At its eastern end, the mezzanine terminates in a dining area, ingeniously nestled within an arch of one of the bridge's stone piers. The room provides breathtaking views both indoors and out. To the west, one can survey the forest of columns and vaults not only in the restaurant but also through glass walls above the kitchen and the market. To the east, the great bridge's underside is visible. The thoroughly unexpected vistas, according to Hardy, "beat Piranesi." The entire interior's architectural qualities are enhanced by a key intervention: a lighting scheme by Fisher Marantz Stone Inc.

In 1998 The Great Atlantic & Pacific Tea Company (part of A&P supermarkets) was successful in finalizing lease negotiations for the major portion of the vaulted space adjacent to Guastavino's to house a Food Emporium supermarket.

Essential to the design of the Food Emporium, as well as that of Guastavino's, is the overall sense of spatial volume and the drama of columns and vaults. Additionally, as Sam Burman, Vice President of Planning and Design for A & P, points out, preserving transparency to allow for vault views, particularly from the plaza, was paramount. This goal was achieved even though wall space is a highly valued commodity in retail operations.

Throughout the project's long evolution, the issue of public space remained central. Public park designer Lynden B. Miller's plaza steps down to meet 59th Street with a sensitively designed wall of varying heights that not only borders planting beds but also invites passersby to sit, lean, and linger. A formal garden incorporating the Blashfield fountain functions as an entrance court to the restaurant and as a quiet neighborhood oasis.

To call Bridgemarket's path to completion vicissitudinous would be understatement. As Kissin puts it, "Every project is a journey, but Bridgemarket was more of a journey." Amid ups and downs, some key players kept all eyes focused on the bridge and its Guastavino vaults, even while aiming to create effective commercial and civic spaces. As Pam Loeffelman, AIA, a senior associate at HHPA, succinctly states, "We stuck with it. The developers stuck with it. The city stuck with it. And in the end, the landmark won. It got to be what it wanted to be." Jennifer Raab, chairman of the New York City Landmarks Preservation Commission, contends that while friction historically exists between preservationists and developers, "preservationists need sponsors who will invest in historic properties to ultimately make great architecture available to more and more people." Realization of the project seemed daunting at times, admits HHPA partner Hugh Hardy after 23 years on the job. But, he adds, this project is "part of a great and long-standing tradition of public/private development in New York City, which makes design more responsive to public need. Bridgemarket is truly an urban amenity unlike any other." ■

Sources

Pavilion curtain wall: *Bliss-Noram*

Stainless-steel roof edge: *ASF Glass*

Exterior curtain wall: *Hopes' Curtain wall*

Fountain restoration: *Petrillo Stone Corp.*

Decorative fence and rails: *Burgess Steel*

Glass block: *Circle Redmont*

Guastavino's:

Kitchen curtain wall: *Fox Steel, Floral Glass, Tower Glass, ICD*

Wood floating ceiling: *Rulon*

Door hardware: *D-Line*

Vault uplights: *Edison Price*

Bar fiber-optic lighting: *Fiberstars*

Crustacea mosaic tiles: *Bisazza*

Drapery: *Bute Fabrics, Ltd., Kvadrat*

Other lighting: *Bartco, Edison Price, RSA Lighting, Winona Lighting, Luminary Tools*

The Terence Conran Shop:

Display fixtures: *Bench Mark*

Stone flooring: *Granitello Agglomerate Marble*

Lighting: *Bartco, Edison Price, RSA Lighting, Winona Lighting, Luminary Tools*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* ***www.architecturalrecord.com***

A complete architectural metal design package

Roofing Syste

Soffit Systems

Wall Panel Systems

Equipment Screens

Column Cove

COPPER SALES, INC.

UNA·CLAD

800-426-7737

www.UNACLAD.com

CIRCLE 99 ON INQUIRY CARD

Mocha

It's just one of the delicious new AccuColor® choices.

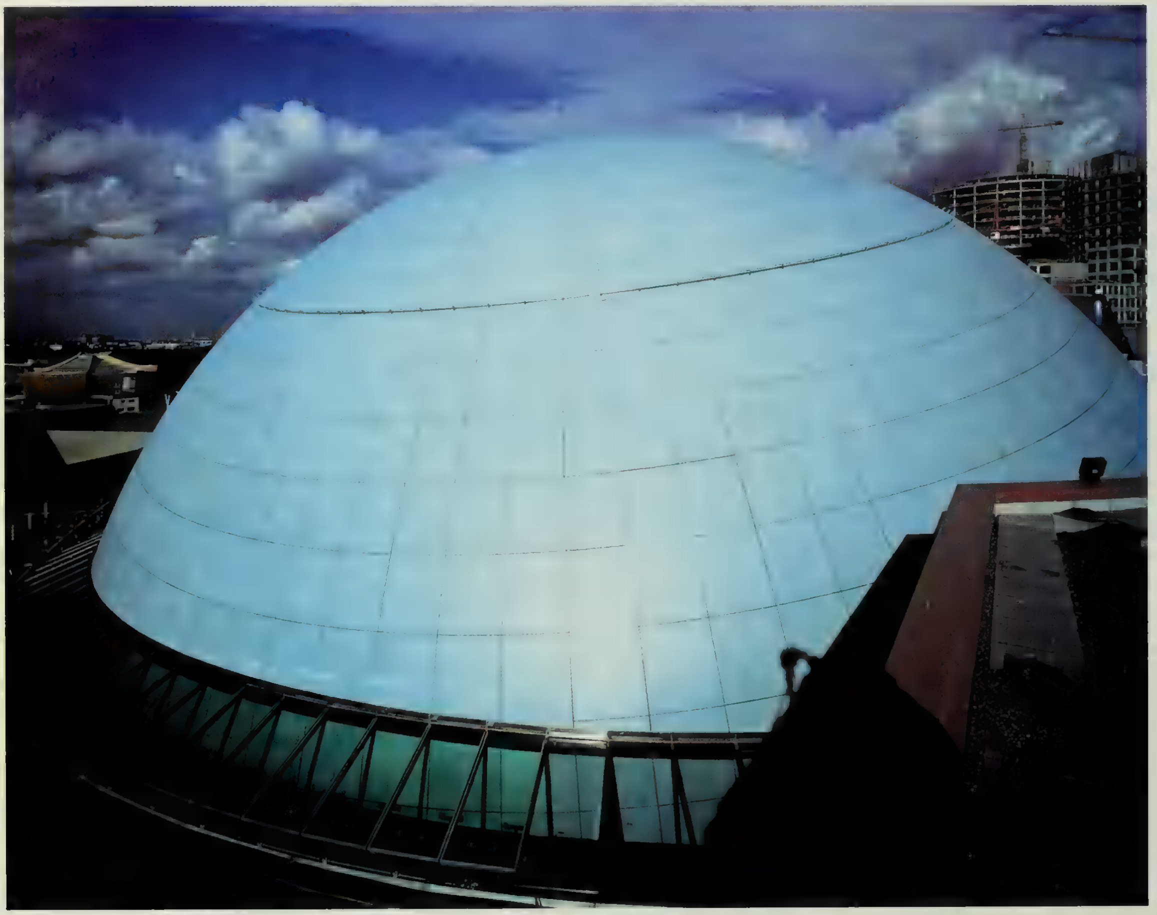
TEC offers you 18 new, up-to-the-minute shades of **AccuColor**® sanded and unsanded grouts and caulks. Tastefully blended to coordinate with today's tiles.

Call **1-800-323-7407** today for a free color selection guide.

TEC®
an H.B. Fuller company

CIRCLE 360 ON INQUIRY CARD

Michelangelo's work is without equal on the inside
but look what Buchtal can do on the outside !!!



When the renowned European architect, Renzo Piano, was asked to create a very special look for the new IMAX theater in Berlin, he turned to Buchtal - the only ceramic manufacturer able to produce what he wanted. The 20,000 s.ft. surface of the dome is now covered by ceramic panels, curved in two directions and some as large as 4 ft. in height, giving the impression of a globe, glittering at night and reflecting the sun and clouds by day.
This unique project clearly demonstrates that Buchtal continues to be the industry leader in project ceramics. Whether it's a special size or a particular color you want, Buchtal should be your first call. You can find us on the web at www.buchtalusa.com or call us at 800-584-5501

BUCHTAL
Corporation USA

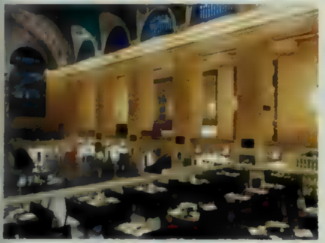
The leader in architectural ceramics

CIRCLE 361 ON INQUIRY CARD

Dining on Design

SOME PEOPLE GO TO RESTAURANTS FOR THE FOOD; WE GO FOR ARRESTING SETTINGS THAT RESULT FROM THOUGHTFUL SOLUTIONS TO UNCONVENTIONAL SPACES.

By Suzanne Stephens



1.

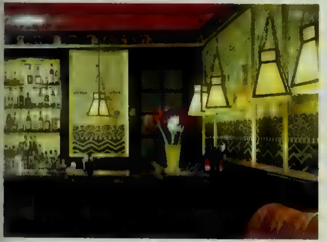
New York City

For Métrazur, in Grand Central Station, Tsao McKown Architects create an understated, modern look that still reinforces the architecture of the Beaux Arts enclosure.

2.

Chicago

Blackbird restaurant attracts the dressed-in-black crowd with an astringently and surreally minimal setting conceived by Tom Schlesser.



3.

New York City

At Danube, chef David Bouley, Kevin White, AIA, and decorator Jacques Garcia reprise the Vienna Secession as an architectural correlative for Austrian cuisine.

4.

London

Rick Mather, an American architect who has had an office in London since 1973, specializes in spatially expressive interiors with a modernist vocabulary.

The public seems to be more intrigued than ever with design these days, judging from incidental observations of restaurant-goers, especially in New York during the last few months. Crowds are thronging to hang out in Diller and Scofidio's aerodynamic Brasserie in the Seagram Building [March, page 29] and Conran Design and HHPA's robust Guastavino's at Bridgemarket [this issue, page 240]. Wandering about these environs are also architects, who debate strengths and weaknesses of one restaurant in adjusting to the basement space of Mies' landmark, or the other in fitting in the undercroft of the Queensborough Bridge.

These eateries are not alone in imaginatively solving thorny architectural issues. A selection of restaurants on the following pages address other spatial problems in inventive ways. Métrazur in New York, a restaurant by Tsao and McKown, creates a distinct environment inside a very distracting and famous work of architecture, Grand Central Station.

Blackbird, in a once-scuzzy, freestanding building in an up-and-coming industrial zone of Chicago, has been transformed by Thomas Schlesser, and later finished by Demian Repucci, into a hyper-clean, pared-down restaurant with an eerily luminous facade.

At Danube, in New York City's Tribeca, the thick atmosphere of Vienna in 1900 has been reconstituted by architect Kevin White, AIA, and decorator Jacques Garcia. Remarkably, they did so within the confines of a triangular floor plan in a 19th-century loft building.

Finally, with Avenue, in London, Rick Mather has made the most of an impossibly long, narrow space by emphasizing its idiosyncrasies with a modernist vocabulary.

Spatial ingenuity and the adroit use of an architectural vocabulary are well and good, but specific factors, both functional and aesthetic, determine the success of a restaurant as much as its overall concept. Two food critics with a strong design sensibility, William Grimes of the *New York Times*, and Peter Elliot, radio host of the *Bloomberg Executive Dining Guide*, are adamant about the importance of traffic flow, lighting, color, acoustics, and kitchen placement to the dining experience.

Such concerns may sound basic, but the two critics argue that many architects are clueless about solving them. They remind us that nonarchitects can seize the day, generating atmosphere and intimacy with just banquettes and booths, soft lighting and color. Since architecture does offer so much more, heed needs be paid to such details. ■

Métrazur

New York City

1

TSAO AND MCKOWN DEFINE A SUBTLE NEW RESTAURANT AND LOUNGE IN THE SHADOW OF GRAND CENTRAL'S HISTORIC SKY CEILING.

By Craig Kellogg

Architect: *Tsao and McKown Architects—Calvin Tsao, AIA, principal; William P. Bowick, Sam Bargetz, Aaron Brumer, Sebastien Boissard, Walter Froetsher, Neil Garrioch, Phillip Gulotta, Dana Kozar, Daniel LaPorte, Paul Lee, Zack McKown, AIA, Randy Pregibon, Erika Ratvay, Neil Troiano, Eric Tsay, Lily Wan, Raymond Wobbe, design team*
Client: *East Balcony Restaurant Associates (Charlie Palmer and Tony Fortuna)*
Engineers: *Goldstein Associates (structural), Cosentini Associates*
Consultants: *Louise Fili, Ltd. (graphics), Domingo Gonzales Design (lighting), Shen, Milsom and Wilke (acoustical), American Kitchen Consultants*
Contractor: *Sweet Construction*
Size: *8,000 square feet*
Cost: *$2.8 million total*

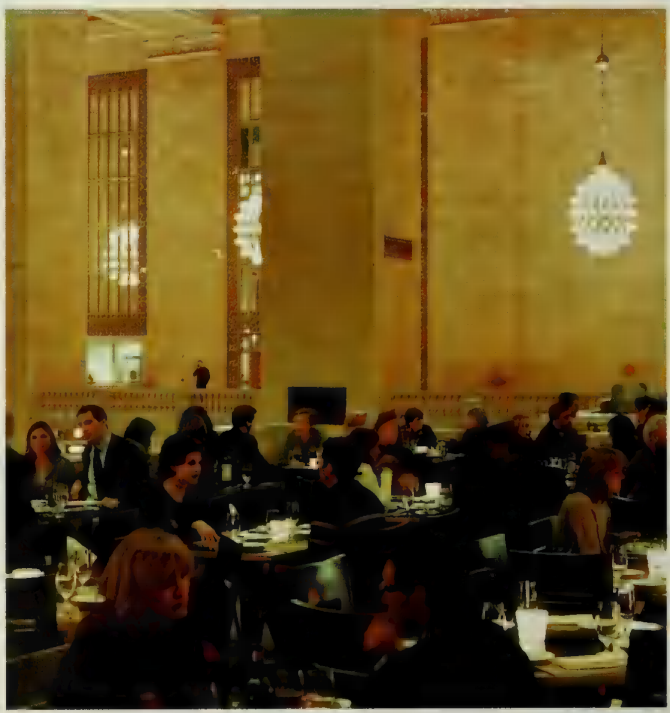
Sources:
Onyx wall: *Stoneworks—Vladimir Obrevko (fabricator)*
Terrazzo: *D. Magnon Co. (fabricator)*
Wood floor: *Haywood-Berk Floor*
Paint: *Benjamin Moore; Pratt and Lambert*
Carpet: *Patterson Flynn & Martin; ABC Carpet*

WWW *For more information on the people and products involved in this project, go to* ***Projects*** *at:* ***www.architecturalrecord.com***

Program

Though it has always been crowded with white-collar Midtown commuters, Manhattan's Grand Central Terminal once seemed an unlikely place for a glamorous restaurant. But during the building's lavish renovation by Beyer Blinder Belle, [February 1999, page 84] a new bifurcated stone stair—originally planned but not realized—was built to link the station's concourse level with the East Balcony. Knowing it would be perfect for people-watching and dining, the building's landlord, the Metropolitan Transportation Authority, seized the chance to install an eatery similar to the upscale Michael Jordan's—The Steakhouse NYC, which is visible on the West Balcony.

To succeed, the new restaurant would have to establish an identity and intimacy within the vast open space. For Michael Jordan's, the Rockwell Group created a distinctly themed presence—where amber-toned lighting and floating wood walls recall deco-era streamlined trains. But the new East Balcony restaurant was not to be such a world-within-a-world. In order to preserve existing sightlines, the MTA prohibited any structures or additions that could be seen from the midpoint of the vast, historic room.



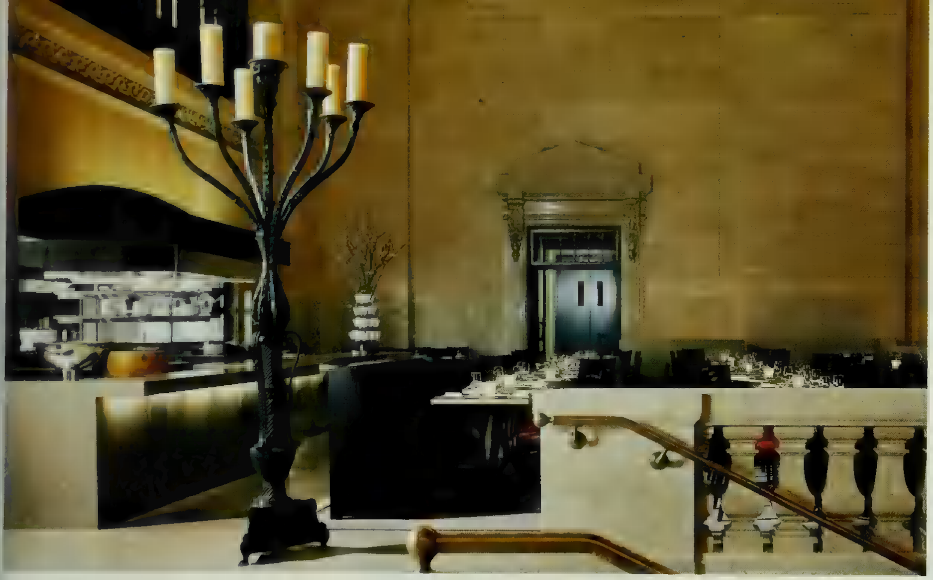
Solution

Tsao and McKown Architects, who had inserted chic restaurants within department stores in Asia, came up with a no-nonsense plan. On one side of the stair is a bar with a nearby lounge under a terminal arch; on the other side of the stair is a sit-down dining area accommodating 90, with a presentation kitchen under an arch. The main kitchen is out of sight, as is a private dining room adjoining the south terrace, which seats 30.

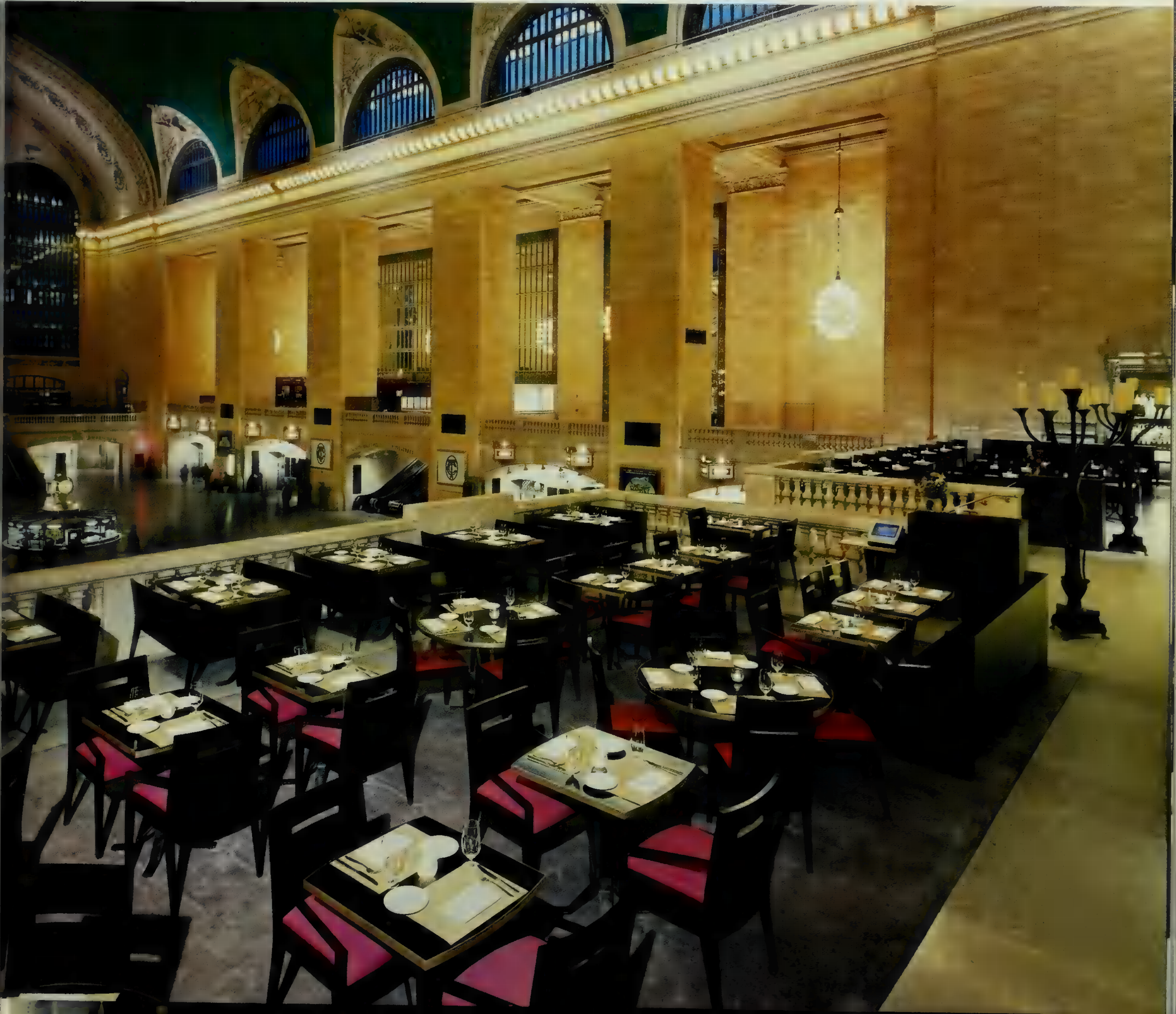
Materials/Lighting

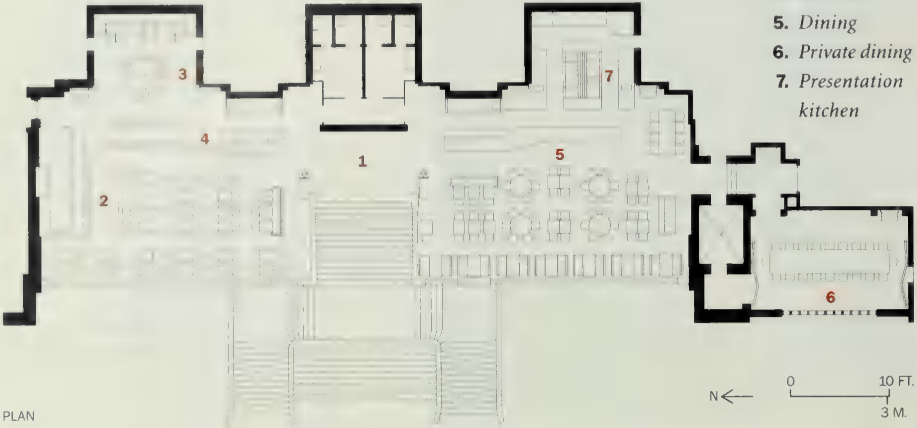
A backlighted beacon greets diners at the top of the central stair, where the veins of book-matched onyx panels subtly form the letter M, for Métrazur. Dark Honduran mahogany chairs and banquettes were designed by Calvin Tsao, AIA, who edged the tabletops in a satiny raw bronze, a reference to the original metal detailing of the 1913 terminal building. Similarly, the balcony's tan terrazzo floor inspired the new terrazzo countertops for the raw bar and the presentation kitchen.

Fluorescent fixtures under these counters provide some of the only highlighting installed at



An originally planned stair, only recently built in Grand Central, now divides the balcony into the bar and lounge on the north side, and the sit-down dining area and kitchen on the south. Initially, a pair of candelabra marked the entrance; owing to their price and a strict interpretation of the fire code, they have been replaced by artificial lemon trees.





PLAN

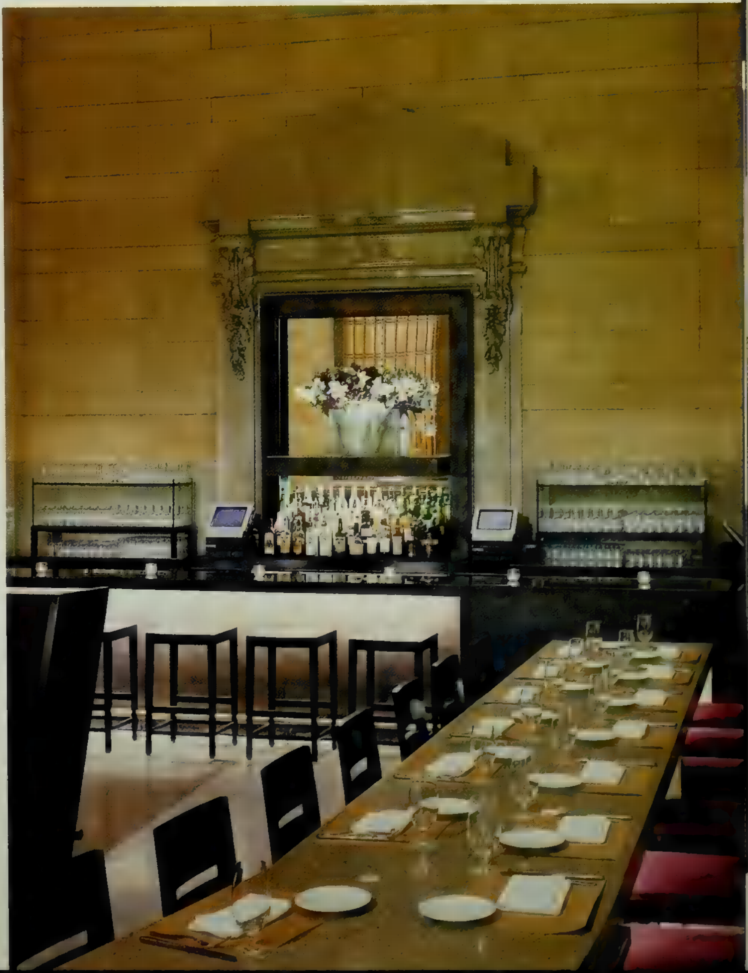
1. *Entrance*
2. *Bar*
3. *Lounge*
4. *Raw bar*
5. *Dining*
6. *Private dining*
7. *Presentation kitchen*

Métrazur. Supplementing the fairly bright ambient light that originates beyond the limits of the restaurant was especially difficult. Owing to the extreme height of the ceiling, spotlighting individual tables proved impossible. Instead, the architects specified large Fresnel lens-style votive candleholders for nighttime dining. A pair of $35,000 seven-light Italian Renaissance-style candelabra initially marked the summit of the stair. They were banished, however, in favor of two artificial lemon trees. "Once the candelabra were gone, they were missed," remarks Zack McKown, AIA. "The trees are the owners' attempt to fill the void."

Commentary

Métrazur offers a low-key, quietly elegant (perhaps too quiet) alternative for New Yorkers weary of aggressively themed eateries. Silhouetted against the luminous onyx wall, guests and staff discreetly advertise the restaurant. On the terraces, the architects were limited to low, movable furniture, so the scale and grandeur of the Beaux Arts terminal threatens to overwhelm any sense of intimacy. More comfortable and soigné is the private dining room, where the architects controlled the lighting and the view. But the variety of spaces at Métrazur—from large and very public to insular and private—offers a range of settings. ■

The presentation kitchen (left) supplements the hidden one; a recessed alcove (right) has become a lounge adjoining the bar.



The private dining room (above) reveals a glimpse of a chandelier beyond the large interior window framed by cotton-silk curtains.

A gleaming Honduran mahogany mirror (right) and 36-inch-high terrazzo bars add elegant notes.

Blackbird
Chicago

2

THOMAS SCHLESSER COMES UP WITH A CLEAN AND LEAN SCHEME FOR RENOVATING A SMALL BRICK BUILDING IN A FRINGE AREA WEST OF THE LOOP.

By Cheryl Kent

Architect: *Thomas Schlesser, design (phase 1 and 2); Demian Repucci, design (phase 2)*
Client: *Rick Diarmit, Paul Kahan, Donald J. Madia, Eduard Seitan*
Consultants: *Sound Investments (acoustical)*
Contractor: *Novelli Builders*
Size: *6,000 square feet, two stories*
Cost: *$600,000*

Sources
Custom furnishings: *Thomas Schlesser (design, chairs, first-floor bar and stools), Kinsel Design (manufacturing); Demian Repucci (design, second-floor bar), Kinsel Design (manufacturing)*
Storefront: *Kawneer*
Glazing: *LOF; Polygal (plastic)*
Hardware: *D-Line, Modric*
Paint: *Pittsburg Paint*
Plastic laminate: *Corian*
Upholstery: *Knoll*
Carpet: *Bentley*
Downlighting: *Halo*
Plumbing fixtures: *Porchere (lavatories), Grohe (faucets), Toto (water closets)*
Computer software: *All Plan*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

Program

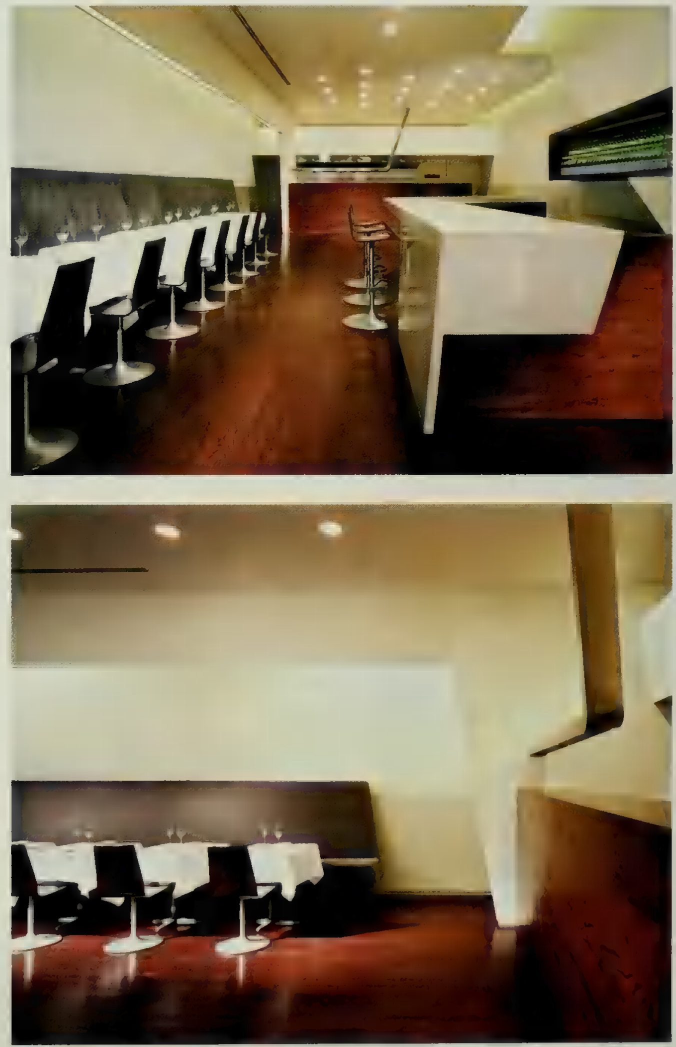
By day, Randolph Street is a scruffy market street; at night, its other personality emerges, as a home to hip restaurants. Blackbird alighted at the edge of this changing strip in 1997 with ambitions of attracting a flock of the city's most discerning and chic diners. The owners, who had found a conventional two-story brick building that was all but abandoned, hired Thomas Schlesser, a young architecture-trained designer, to create an understated place that would not overwhelm the experience of eating. "The color in here is the people and the food," says Donald Madia, one of Blackbird's four partners.

Schlesser came up with the general concept, although only the first floor was finished for the opening in 1997. Eighteen months later, his plans for the second floor were activated. Since Schlesser had joined KPF in New York, another architecture-trained designer, Demian Repucci, was brought in to execute the design's final phase.

Solution

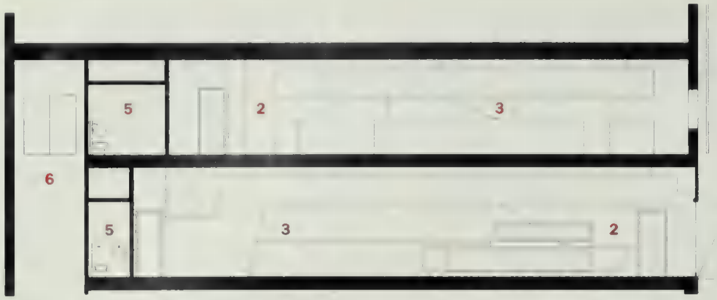
Schlesser began by breaking open the brick box and glazing the front of the first floor to cover all but the entry at the street level. He then framed the entirety in white artificial stucco, so the restaurant appears to levitate

Cheryl Kent, a Chicago-based architectural writer, is a regular contributor to the New York Times.

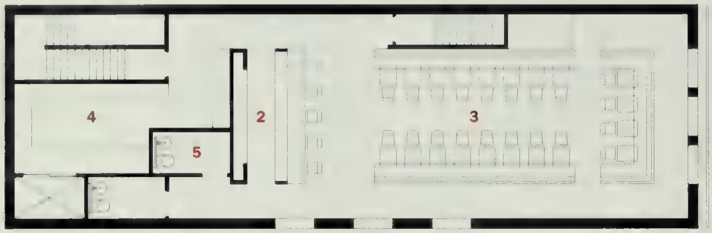


On the first level (above), oak is used liberally; a solid surfacing material forms a continuous apron on the bar. Glass and plastic create a luminous facade (opposite).

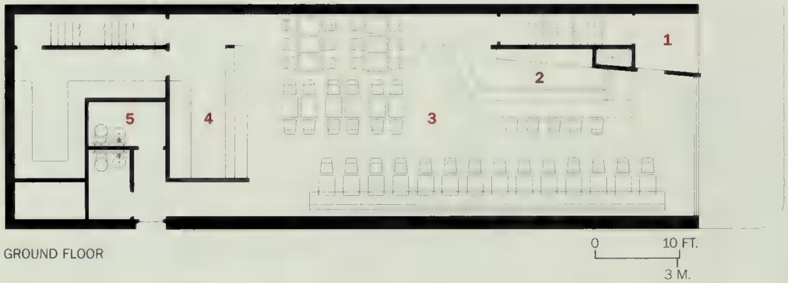
Blackbird



SECTION



SECOND FLOOR



GROUND FLOOR

1. *Entry*
2. *Bar*
3. *Dining room*
4. *Kitchen*
5. *Rest rooms*
6. *Elevator*

In the dining area on the second floor (left and opposite bottom), gray mohair banquette seating wraps around the three sides of the gray carpeted room. Space between the wall and the banquettes allows waiters access to patrons. The surreally minimal bar (opposite top) is finished in stainless steel with a translucent acrylic top that is lit from underneath.

within its brick shell. Later, translucent white plastic was added to the second story, giving the facade the aspect of a screen.

Schlesser looked on the interior as "a box inside a box" and designed the seating and the bar as architectonic elements within the enclosure.

The detailing contributes to the simplicity and sense of weightlessness. A suspended ceiling plane conceals the air intake above, and perimeter lighting makes the ceiling seem to float. The kitchen at the rear is open, although a soffit hides the cooking surface's hood.

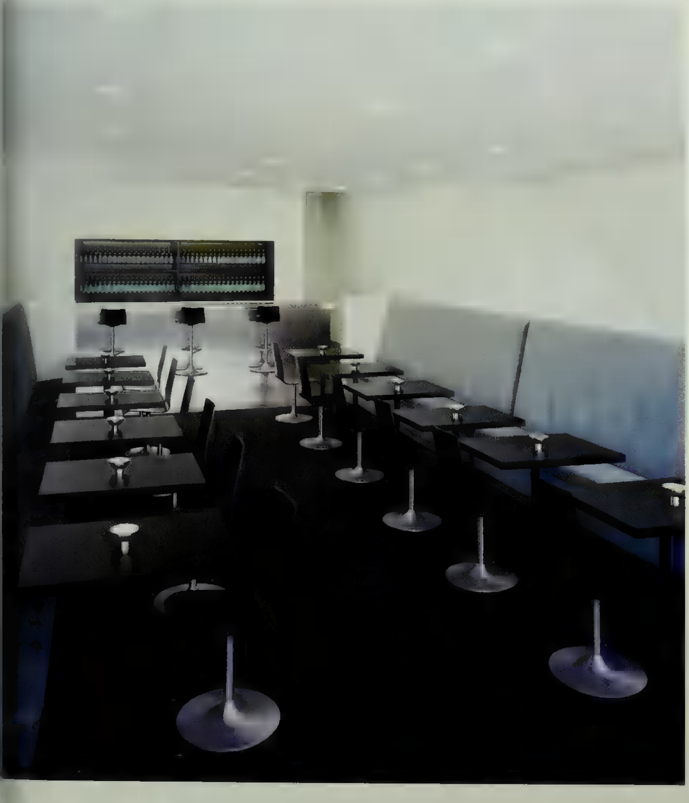
Upstairs, Schlesser planned the dining to be anchored at the restaurant's front, where a large three-sided inward-facing banquette delineates its own space. In following through with this phase, Repucci left the narrow enclosed stair in place, even though it brings people to the middle of the second floor. To create a sense of arrival, he designed a dramatic stainless-steel-and-acrylic bar near the stair.

Structure and materials

The brick structure is surfaced inside with drywall. Floors are oak; on the first level, oak faces the bar and the low wall separating the kitchen from the dining area. A solid surface counter covers the first-floor bar, clear acrylic the second. Like the rest of the furniture, the gray mohair banquettes were custom-designed by Schlesser. The chairs and stools are molded plywood, stained to complement the flooring.

Commentary

Blackbird's spare quality does permit the environment to recede and the people in it to come forward. Yet it is a space that rewards the eye with richness wherever it rests. On this eclectic street, the minimal white box is as simple, radiant, and beckoning as a Japanese paper lantern. ■



Danube
New York City

3

KEVIN WHITE, AIA, AND JACQUES GARCIA BRING BACK THE LUSCIOUS DESIGN, DECORATING, AND ARCHITECTURAL MOTIFS OF VIENNA CIRCA 1900 FOR A RESTAURANT WITH A TRIANGULAR FLOOR PLAN.

By Suzanne Stephens

Architect: *Kevin C. White, AIA*
Interior Designer: *Jacques Garcia*
Client: *David Bouley*
Engineers: *Robert Silman Associates (structural); Goldman, Copeland Associates (mechanical)*
Size: *2,470 square feet total (including a 910-square-foot dining room and a 350-square-foot private dining room)*
Cost: *$1.7 million*

Sources
Windows, storefront, doors: *Browne & Co.*
Cabinetry and millwork: *Browne & Co.*
Art and finishes: *Gerard Coltat (Klimt-style paintings, decorative canvas); Price Thomas Studios (decorative painting for ceilings and wood staining); Hollander glass (decorative glass); Kevin Rabu (decorative metal)*
Carpet: *Breton's (for design by Jacques Garcia)*
Furniture: *Munrod (for designs by Jacques Garcia)*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

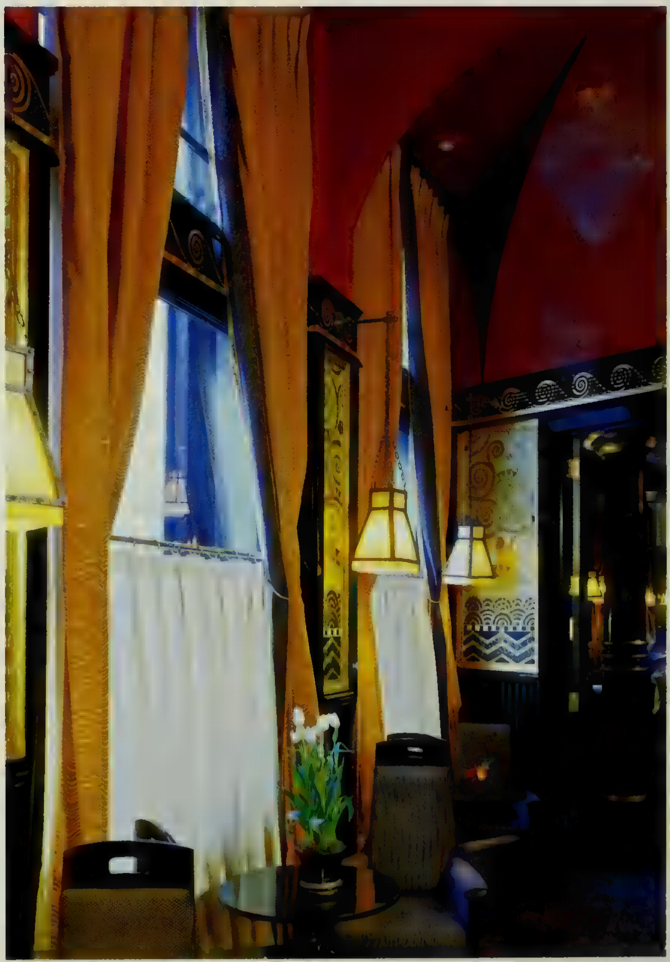
Program

With his new restaurant specializing in middle-European haute cuisine, chef David Bouley sought the right setting for beef cheeks and chive spaetzle executed with a light touch. He knowingly looked to the Viennese Secession, the 1900s version of light, modern design. The result is a rich *gesamtkunstwerk* that includes food in its definition of total work of art.

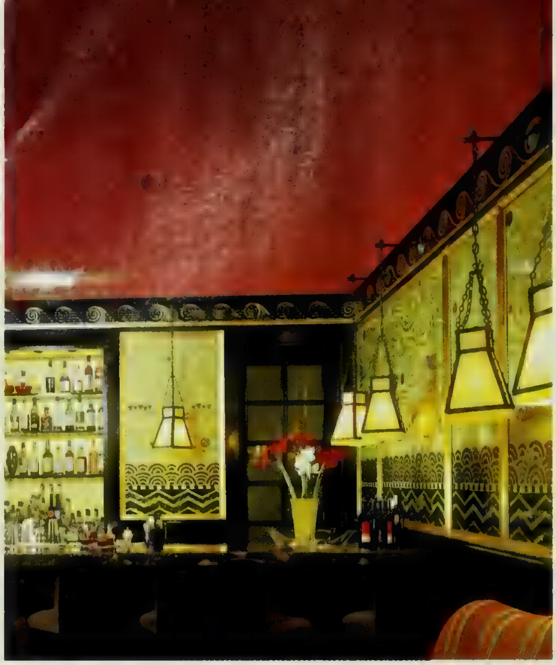
Bouley brought in his architect, Kevin White, AIA, who had worked with him on the Bouley restaurant in 1986 and on the Bouley Bakery in 1996. "Too many restaurants have been opening that are stark and cold," notes White. "We just decided to go over the top." So Bouley also turned to Jacques Garcia, the Parisian decorator well versed in Le Style OTT (Over-The-Top), whose hothouse interiors for Paris' Hotel Costes had caught Bouley's eye.

Solution

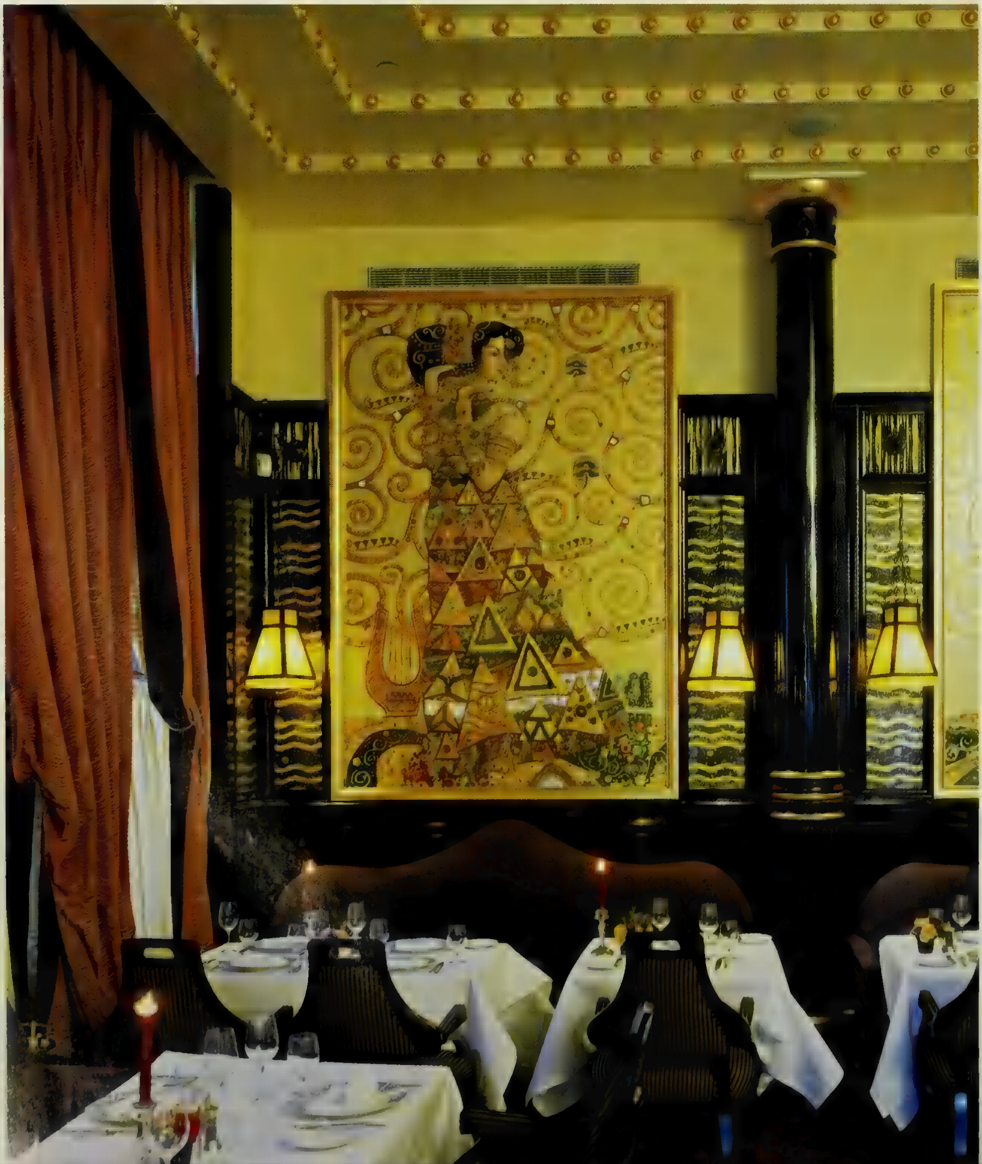
Located on the ground floor of a late-19th-century redbrick building in the heart of Tribeca, Danube's 75-seat dining room and its bar for 25 conform in plan to the triangular site at Hudson and Duane Streets. "Nothing was there except the wedge shape and the cast-iron columns," says Bouley. By making the narrow end of the triangle the entrance vestibule, White established a natural progression through the bar, then a hinge space leading to the kitchens and a downstairs



Furnishings and fabrics in the bar (above and right) are inspired by Wiener Werkstätte designs; the entrance hall next to the bar is surfaced in Brazilian polychrome granite. The pattern of the decorative art on the walls owes much to Gustav Klimt's mosaics at Palais Stoclet.



Poplar wood, ribbed and stained black, was used for wainscoting and bar siding (left), while the draperies are cut velvet. The cast-iron columns were sandblasted, recovered with wood putty and plaster, then sanded and painted to look like solid lacquered wood.



private dining room, and finally the triangular dining room ahead.

The team carefully studied the lush colors, decorative patterns, and gleaming metal, glass, and wood surfaces characteristic of the Secession. They enlisted artists and artisans to recreate Klimt-style paintings and various lapidary finishes for the walls and ceiling, while Garcia offered up his own renditions of period furniture.

Materials and lighting

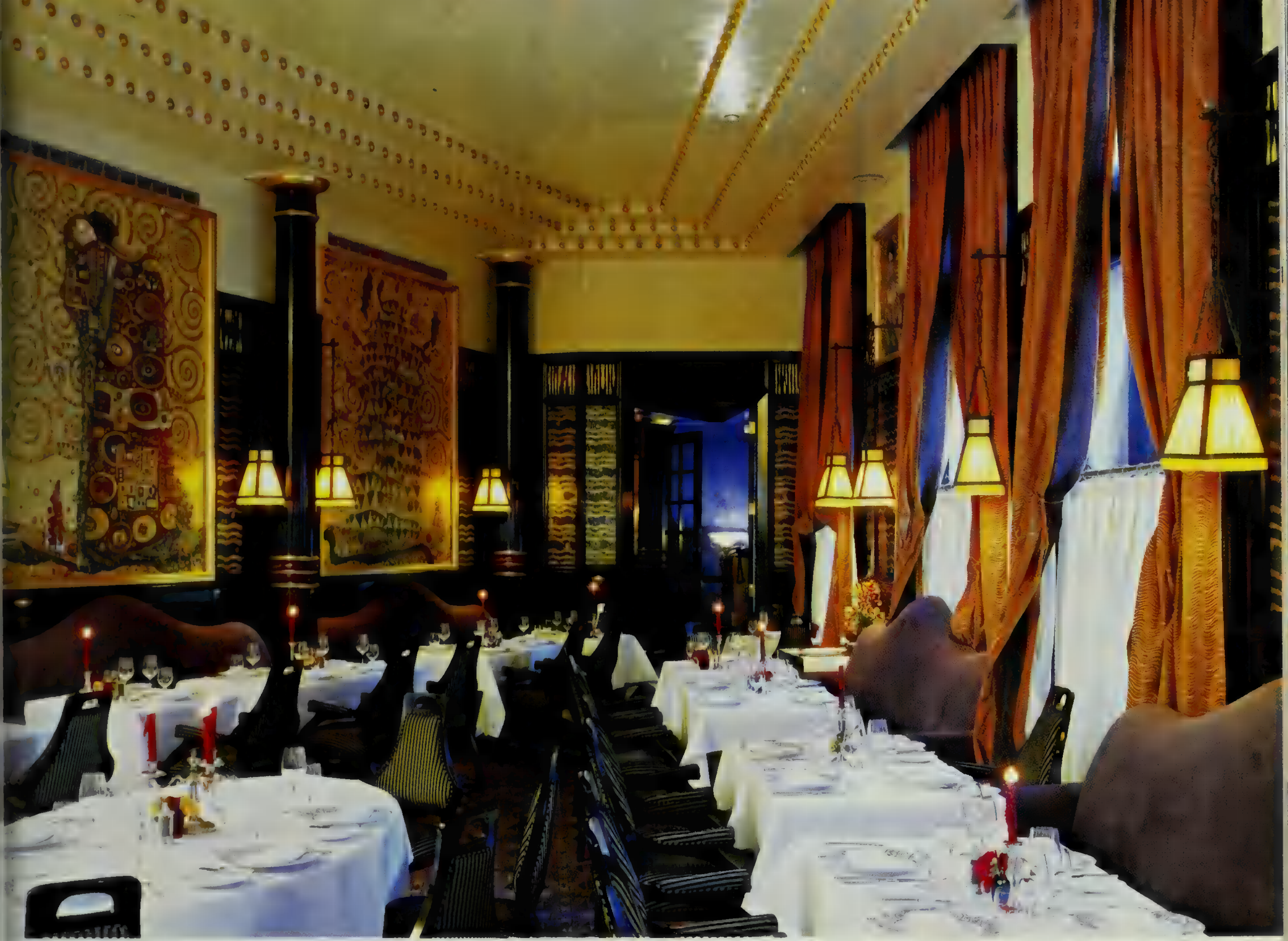
A burnished look permeates throughout, beginning with the small entrance hall's ceiling of copper leaves and the bar's deep red vaults, plastered and applied with stucco Veneziano. This encaustic finish, in which pigment is mixed with soft wax, receives additional sparkle in the dining-room ceiling, where gold mica was added to the wax.

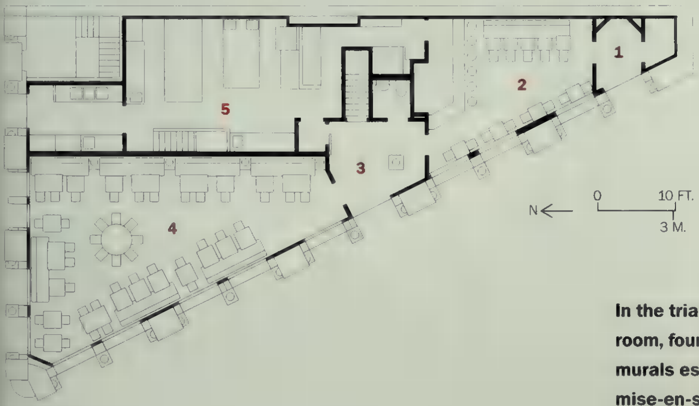
The wall panels around the bar were painted on one piece of canvas (with ample gold pigment), then cut and mounted behind glass. The bar's vitrine is a patterned decorative glass with gold leaf on the back.

There is no overhead lighting. None. Suspended lamps, designed by Garcia and covered with silk-pleated shades, are supplemented at lunch by daylight and at dinner by candles.

Commentary

If you could gain weight by just sitting inside a restaurant, you would be in trouble at Danube. The count is about 3,000 visual calories per square inch. Fortunately, such opulence, luxury, and effulgence are not fattening. And the scale and layering of decorative art and objects work with the odd dimensions of the rooms to enhance the spatial interplay of two-dimensional patterns and three-dimensional forms. The entire effect is enriched by the lustrous, coved and contoured ceilings, soft amber lighting, plush curtains, the gleam of hard surfaces, and the glint of gold leaf. Even if the look is themed, the contours of the furniture more exaggerated than the original, or the Klimts an easy choice, so what? You can always go back to reading Adolf Loos when you get home. ■





FLOORPLAN

1. *Entrance and coat check*
2. *Bar*
3. *Vestibule*
4. *Dining room*
5. *Kitchen*

In the triangular dining room, four Klimt-style murals establish the mise-en-scène. The shallow reveals of the ceiling are outlined by rows of gold-leaf knobs (above); the private dining room downstairs has vitrines for the display of old glass.

Avenue
London

4

RICK MATHER EMPHASIZES THE CHARACTER OF A NARROW, HIGH SPACE WITH A SPARE, WHITE, MODERNIST VOCABULARY.

By Suzanne Stephens

Architect: *Rick Mather Architects—Rick Mather, principal; Douglas McIntosh, Chris Bagot, Uli Blum, design team*
Client: *Moving Images Restaurant (Chris Bodker)*
Engineers: *Dewhurst MacFarlane and Partners (structural), Atelier 10 (mechanical and electrical)*
Consultants: *Rick Mather Architects and Atelier 10 (lighting)*
Contractor: *Pat Carter Shopfitting*
Size: *Approximately 4,015 square feet*
Cost: *$1.4 million*

Sources
Glazing: *Firmans*
Doors: *Dorma Ironmongery*
Floor tile: *Pietro Lara limestone by Stoneage*
Chairs: John Coleman

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

Program

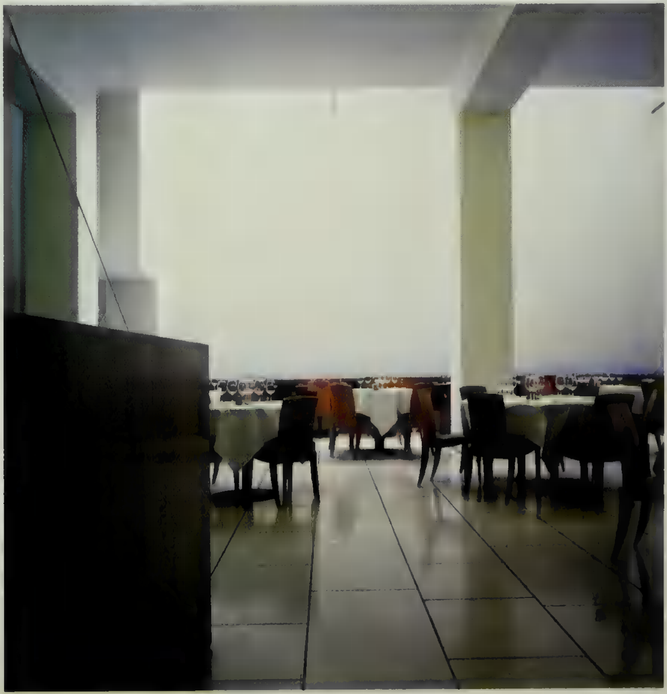
The American-born architect Rick Mather has been making news with his current commission to conceive the master plan and urban design strategy for the South Bank arts complex. He is also known for a culinary sideline—designing restaurants such as ZenW3, Zen Central, Now and Zen, and, most recently, Yoshino. One of Mather's most striking efforts in this genre has been Avenue, which specializes in Western cuisine. Here the architect successfully revamped an old bank space in one of London's tonier areas for a sophisticated professional clientele.

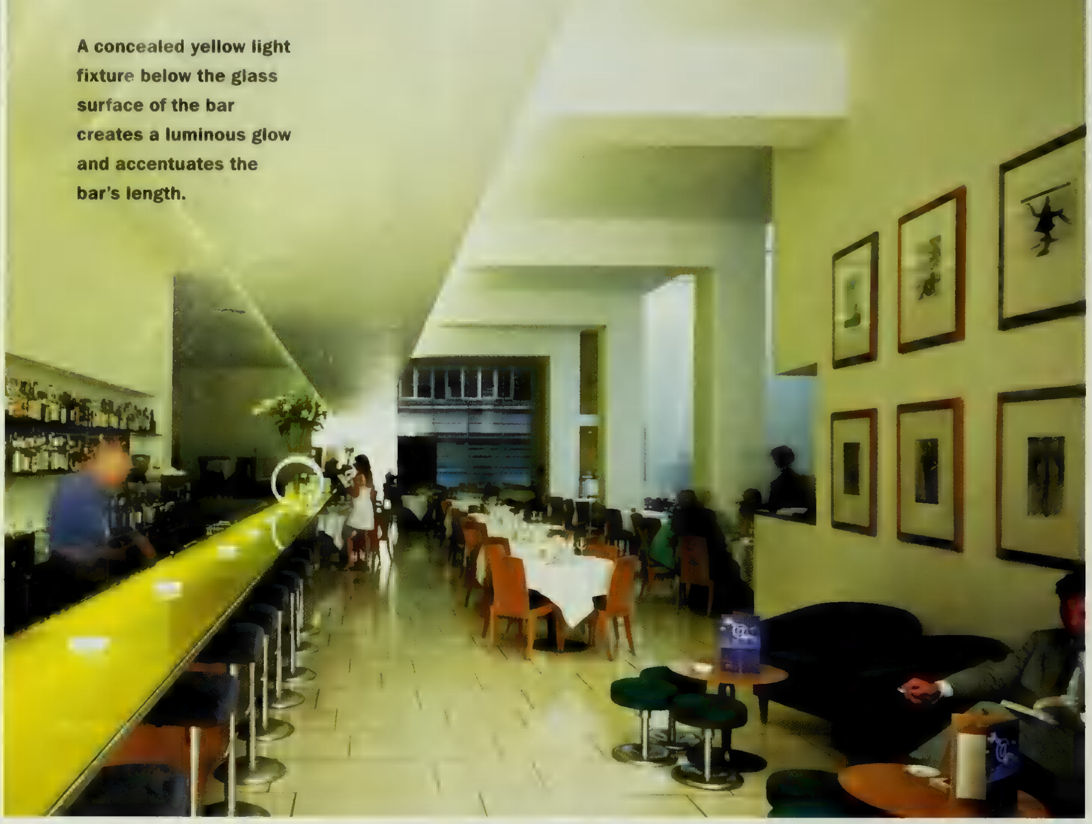
Solution and intention

Because the former ground floor of the bank was long (about 108 feet), Mather glazed the entire front and installed clear and translucent glass at the back, where a pedestrian alley cuts through the block. Then he discovered a roofed-over skylight running along the south wall of the room. By inserting butt-jointed glass, he was able to suffuse the middle of the once dark restaurant with daylight. The 1920s structure—concrete-covered steel columns and beams—was exposed and finished in a white plaster to emphasize the 20-foot height of the original ceiling. "This gave the place an architectonic feel," Mather says, "and became its design identity."

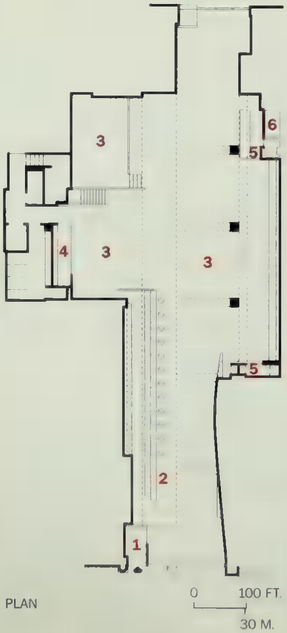
Instead of fighting the long, high, narrow space, Mather drama-

The ground floor of a 1920s building was transformed into a restaurant on the generous thoroughfare of St. James off Piccadilly, near the Ritz Hotel. Inside (opposite and below) a skylight was reinstated and the structure exposed.





A concealed yellow light fixture below the glass surface of the bar creates a luminous glow and accentuates the bar's length.



1. *Entrance*
2. *Bar*
3. *Dining room*
4. *Wine storage*
5. *Waiters' stations*
6. *Dumbwaiter from kitchen*

tized its inherent characteristics. He extended the bar to over 45 feet and surfaced it with cast translucent glass. A dropped ceiling hiding HVAC equipment reinforces the pull of the space from the front, past the bar, to the dining area. In addition, a large mirror, placed at the end of the lowered soffit, reflects the long lines of the bar and ceiling, giving the illusion of extending to infinity.

A walk-in wine cellar of cherry wood and glass backs a dining alcove in the restaurant's widened midsection. "You don't need to add decoration to a restaurant," says Mather. "Just use what needs to be there." A carved-out corner of drywall construction on the opposite side creates a waiters' station. "This design is not about minimalism," adds Mather. "I am not ironing out all the quirky things or flattening out the ceiling. I like to make the most of the existing conditions."

Materials and lighting

The American cherry furniture and bar siding offer a strong, warm antidote to the cool aura of the white plastered interior. The mottled tone of the off-white Spanish limestone floor camouflages spills.

Artificial lighting is subtle by day: In addition to the fiber-optic lights in the lowered ceiling, indirect fluorescent lighting with a warm filter along its sides balances natural light. At night, the skylight wall is washed with fluorescent uplighting behind the banquettes, and the bar counter turns into a glowing yellow strip of glass.

Commentary

The pull of the long, attenuated lines through the restaurant, punctuated by a series of exposed columns and beams, gives the place spatial and structural oomph. Because the architect (and client) wisely left the expansive white wall under the skylight bare, it becomes its own light-art piece. The serenity is not disrupted by swinging kitchen doors, owing to the placement of the kitchen in the basement and the use of dumbwaiters. And, in spite of the hard surfaces, the spatial division keeps the din down. ■

Safety flooring is Altro's specialty. ■ In 1947, we led the way to reducing slips and falls in the workplace by creating the world's first slip resistant sheet vinyl flooring. ■ Today, risk management and liability ssues make Altro an even more appropriate choice. ■ Altro manufactures superior safety flooring with exceptional slip resistance, long-term durability, underfoot comfort, Easyclean Technology™ and great aesthetic appeal. ■ Altro — five-star safety — for over fifty years. ■

ALTRO® SAFETY FLOORS

Toll-free: 1-800-565-4658 Web site: www.altrofloors.com E-mail: info@altrofloors.com

CIRCLE 102 ON INQUIRY CARD

www.bidcom.com

[illegible] All rights reserved. Bidcom and the Bidcom logo are trademarks of Bidcom, Inc.

"Beautiful buildings are...
works of art using the best technology."

Frank Lloyd Wright

Bidcom™

Build Better.

Bidcom, Inc. helps companies manage risk, drive down costs and complete building projects on time. Bidcom's services — delivered through the Bidcom e-Marketplace — allow building industry professionals to communicate, collaborate, manage business processes, conduct bidding and procurement, and access valuable industry information. Bidcom's easy-to-use services support owners, real estate developers, architects and design professionals, general contractors, subcontractors, suppliers, and facilities managers throughout the lifecycle of multiple building projects.

CIRCLE 363 ON INQUIRY CARD

It's big. It's clumsy. And it's not too bright.

Sound like your architectural software?

You can continue plodding along with your current CAD software, or you can make the smart move to ArchiCAD. It can be mastered surprisingly fast, and only ArchiCAD has been designed specifically for architects. Really, isn't it time you raised your standards and let go of the past? Embrace the intelligent and integrated approach to building design and documentation.

SEVEN REASONS TO SWITCH

- Intuitive commands easy to master
- Fully AutoCAD compatible
- Remarkable efficiency gains and ROI
- Cutting edge presentation features
- Fully parametric objects
- Time-saving automatic documentation
- 30-day money back guarantee

ArchiCAD®

www.graphisoft.com/ArchiCAD 800.344.3468
Visit or call for a FREE Presentation CD and the location of an ArchiCAD dealer near you.

GRAPHISOFT®

Graphisoft and ArchiCAD are registered trademarks of Graphisoft R&D Rt.

CIRCLE 103 ON INQUIRY CARD

Digital Architect

The design implications of technology

By Jerry Laiserin, FAIA

The pervasive use of networked computers and multimedia equipment in the work environment adds a new element of complexity to the architect's job. While designers typically possess a working familiarity with building services and physical infrastructure, few have comparable mastery over the requirements of information services and technology infrastructure. But understanding the space-planning requirements and design implications of computer communications and multimedia environments is rapidly becoming an essential part of everyone's practice.

Getting informed

It's difficult to get practical information about emerging technologies. New subjects, not yet included in the registration exam, may not be offered at architecture schools. So some architects turn to their peers for practical information. The Computer Applications Committee of the AIA/New York Chapter, for example, which previously focused on CAD and other tools, has broadened its focus to include information technology systems and changed its name to the Information Technology Committee (ITC).

John Howell, AIA, chairman of the ITC and a technologist at financial services giant J.P. Morgan, says architects must "learn to get comfortable designing for technology, not just with technology." To further that objective for the ITC's hundreds of participating architects, Howell organizes committee seminars on subjects like virtual private networks, riser management, and structured cabling. The ITC arranges "backstage tours" of communications-intensive facilities like Four Times Square [March, page 91] in New York City. Consistent with his duties at J.P. Morgan, Howell is certified as a network equipment specialist by the Building Information Consulting Services International, an industry standards group. He believes, however, that "most architects won't need to become network equipment specialists themselves, but will need to know who the experts are and how to work with them."

Electronic Systems Associates (ESA) is one of a new breed of consulting firms that is helping architects integrate computers and media into buildings. The company has 10 offices around the country, located with those of its corporate parent, engineering firm Syska & Hennessy. ESA president Stephen Fredette, who has prior experience as a systems integrator, says architects must be aware of planning issues to accommodate wiring in new or renovated spaces. Just providing adequate room, appropriately located, for network communications equipment is significant, he says.

For example, when designing rooms to house servers there must be enough space in front of and behind the equipment racks to allow access for maintenance. High-speed network equipment requires ample, round-the-clock ventilation and cooling. All digital electronics depend on clean electrical power and an uninterruptible back-up supply. The location and path of power wiring in walls, above ceilings, or under floors should be separated from communications cables to reduce electrical interference.

Contributing Editor Jerry Laiserin, FAIA, develops collaborative strategies for architects and their technology providers.

Cox Enterprise's newspaper and broadcast bureau has monitor banks with live feeds in the reception area (top) and at the entry to the TV studio (bottom).

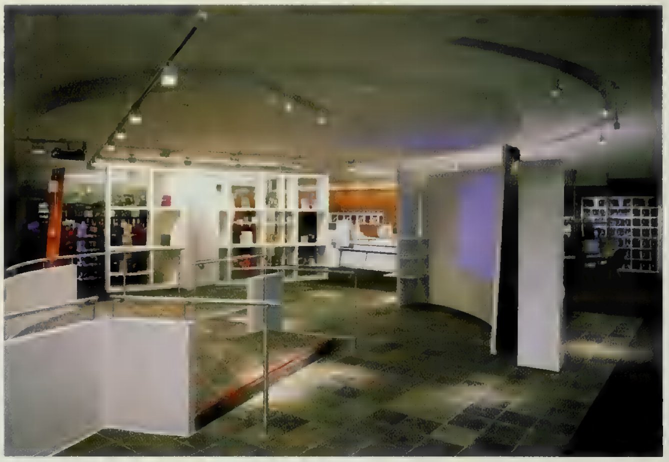
Distribution closets, which house hubs and patch panels for LANs, should be spaced in a pattern on each floor that minimizes extreme differences in the length of cable runs, and they should also be vertically aligned from floor to floor to minimize signal-degrading kinks and offsets in risers.

Eric Rochelson, ESA's director of audiovisual systems, points out other considerations for media-intensive spaces, such as boardrooms, videoconference centers, and training facilities. Rochelson highlights issues such as clearances required for rear-screen video projection equipment (6 to 10 feet behind the screen); the need to conceal in-room, half-height equipment racks within custom millwork enclosures; and the requirement for network and power connections to be directly integrated into conference tables and desktops.

Display systems and networking equipment typically are linked with the building's HVAC and security-control systems. Security for boardrooms, where confidential matters are discussed and transmitted electronically, demands space-consuming countermeasures against espionage—installing layers of electromagnetic shielding in the walls to prevent digital eavesdropping, for example. Another strategy is to introduce masking noise in the room's enclosure and ductwork to deter acoustical eavesdropping.

The router's connected to the backbone

Even with the help of consultants, architects still must take responsibility for their own work. And a consultant may not always be available for critical planning meetings. James Greenwell, AIA, of Greenwell Goetz Architects in Washington, D.C., often works with technology infrastructure consultants but says that his firm's guiding objective is to ensure that the architectural solution is driven by the client's workflow, not by the flow of electrons from building backbone to workstation. Ideally, the design process should be client-centric and not technology-centric.



The World Bank InfoShop & Public Information Center entry in Washington, D.C., features a curved screen with alternating multimedia displays.

"We first ask clients, 'How do you get your work done?' and 'What kinds of spaces do you need to support that?'" Greenwell says. "Then we ask, 'How do you use technology in the work product?'"

As clients move to a more flexible mix of private versus community workspaces with fewer floor-to-ceiling partitions and fewer systems furniture "cubes," getting LAN cabling from the desktop to the server is an issue. Raised floors (or depressed slabs) and poke-through access systems, in which power and communications connections emerge from under floor decking, address this need, but add yet another dimension to the impact of technology on space planning.

To be sure that project architects can knowledgeably and simultaneously address aesthetic, functional, and technological issues with clients, Greenwell Goetz encourages professional development within their firm. "All other factors being equal, the company's hiring policies favor applicants with technological expertise," Greenwell says. The firm invites technology consultants and engineers to conduct formal staff-training sessions on new and emerging infrastructure issues. Less formal lunchtime seminars are held at the firm to share "lessons learned" and "best practices" from the firm's many projects for high-tech, communications, and financial clients.

Finally, Greenwell Goetz has two full-time information technology staffers who are required to stay current with developing technology and are available as in-house consultants for project teams. Ultimately, in Greenwell's view, every architect in his 60-person firm should know at least as much about routers, hubs, and cable risers as they know about stacks, vents, and plumbing risers. ■

WWW *For a list of infrastructure technology product and service vendors, go to* ***Digital Architect*** *at:* ***www.architecturalrecord.com***

Technology terminology

Backbone: This is the major artery of networked systems. Smaller networks may be attached. Some companies and owners prefer multiple backbone connections to foster competition and to create redundancy in the event of failure.

Conditioned Power: Electrical service that is protected from line noise, voltage surges and spikes, brownouts, and blackouts.

Distribution Closet: A room containing equipment racks filled with hubs and patch panels for arranging LAN connections.

Hub: A passive device for splitting LAN signals and distributing them among multiple computers, servers, and other network-attached devices.

LAN: A Local Area Network, or collection of interconnected computers, servers, and hubs within a company. Multiple LANs linked together form a WAN, or Wide Area Network.

Premises Wiring: The communications cabling within a building or individual tenant space, usually provided as part of tenant fitout, not as part of the base building.

Riser (Management): Connections from the building backbone to separate tenancies or multiple departments, typically in multistory buildings. Leading vendors include Allied Riser, Intellispace, and OnSite Access.

Router: A special-purpose, active switching device that links a LAN to a backbone or links multiple LANs to a WAN. Vendors include Cisco, Nortel, and 3Com.

Server: A computer designated as a shared resource on a LAN. Leading vendors include IBM, Compaq, Dell, and Hewlett-Packard.

Structured Cabling: A complete system of wiring, connecting devices, and installation standards certified to deliver a specified data-transmission speed over a LAN.

Systems Integrator (SI): Like a general contractor for computer systems, an SI procures and installs all the structured cabling, servers, computers, and software for a LAN.

Virtual Private Network (VPN): A private network built within a public network.

WAN: Multiple LANs linked together by physical or virtual connections.

Wire Management: A system of raceways, cable trays, and/or ducts to consolidate and organize cables within and between equipment racks or office furniture.

One click away from genius.

The brilliance of CAD software is that it can let you move a wall in seconds. But if it still takes you hours to make revisions to the rest of the model, are you really getting what you paid for?

Introducing Bricsnet Architecturals. The first 3D modeling software for AutoCAD or IntelliCAD 2000 to outsmart the typical obstacles in the design process. Its native DWG format ensures a seamless exchange of models between you and your co-workers, so there is no risk of losing mission-critical information.

Because your first draft is rarely your last, Bricsnet Architecturals not only lets you create complex models quickly, but can completely alter them with the simple click of a mouse. Drawings, quantities and reports are automatically generated and updated the minute you make your change, giving you more time to spend on creative design.

Bricsnet Architecturals is one of the many services of Bricsnet.com designed to make the building industry more efficient. And because it is available for only $995 (or $395 for an annual subscription), it really is a smart way to build. To purchase or find out more about it, visit www.bricsnet.com today.

bricsnet.com

Bricsnet.com is the most comprehensive e-marketplace for the building industry. A place where every part of the building process gets equal attention, so that someday the world's second largest economy will also be the world's most efficient.

BUILD on

CIRCLE 104 ON INQUIRY CARD

PLEASE COME VISIT US AT THE A/E/C SYSTEMS 2000 TRADESHOW AND CONFERENCE, BOOTH # 1827.

We do business better...

When you need to know the latest about building codes and code enforcement, you want instant access to the most accurate information available. At SBCCI, you get the information you need in the format that's best for you.

At SBCCI you will speak with a real person. Our knowledgeable technical staff is waiting to assist you with free code interpretations. Just call our toll-free number for the information you need.

At SBCCI we use the latest technology to bring you the most recent information. Log onto our web site. You can access our web page at http://www.sbcci.org or contact us with comments or questions via e-mail at members@sbcci.org. We make the information [illegible] easy to find and easy to use.

At SBCCI you don't have to thumb through a code book looking for the right information. We have developed innovative software called Standard Search℠ which puts the information you need at your fingertips. Simply run a search for key words, and instantly the information you need appears in front of you.

At SBCCI we do business better because our dedication to member service is priority, guaranteed 100%. It's evident in the fact that our membership dues have not increased since 1972, even though we've grown to meet the needs of 16,000 members. With a team of knowledgeable individuals, edge-cutting technology and innovative ideas SBCCI brings you the best.

Southern Building Code Congress International, Inc.
900 Montclair Road • Birmingham, AL 35213-1206
Fax: 205-591-0775 • TTY: 205-599-9742

Toll free: 1 877 4 ICodes

CIRCLE 105 ON INQUIRY CARD

Tech Briefs

What's happening with brownfield development and how it's affecting architects • Conflicting evidence about natural ventilation and keeping cool in the office

ARCHITECTS AMONG THOSE WHO BRING HELP TO "ENVIRONMENTALLY IMPAIRED" PROPERTIES

Brownfields aren't what they used to be. For years, brownfields meant urban properties plagued by environmental pollution—sites dripping with dangerous chemicals. But the Environmental Protection Agency (EPA) has now broadened this definition to include abandoned, idle, or underused industrial and commercial properties where redevelopment is complicated by "real or perceived" contamination. In short, brownfields include properties devalued by things other than chemicals.

Development of brownfields brings opportunities as well as hazards for architects. Formerly the bailiwick of developers, brownfields increasingly involve architects, who may be asked to rehab old buildings on a brownfield site. Architects also may commission site analyses and respond by designing new buildings that tiptoe over site hazards, seal those hazards in place, or sidestep them completely.

Working in Chicago

According to the federal government's General Accounting Office, there are at least 150,000 acres of idle industrial sites located in major cities throughout the U.S. Developing these sites used to be onerously expensive. But a number of factors have combined to make brownfield development less expensive and, as a result, more widespread.

While funding is available through federal agencies and the EPA, much of the responsibility for brownfield development has shifted to state and local governments. These efforts vary. About 30,000 sites were removed from the Superfund list, making development easier. Pilot projects allow localities to focus on regional issues. In Buffalo, N.Y., for example, a former steel mill site is being redeveloped into a greenhouse.

There are about 42 pilot projects in Chicago, which has its share of brownfields. Illinois EPA records indicate there are about 300 brownfield sites in the city. But developing those sites has become much easier in recent years, says David Kahnweiler, president of real estate firm Colliers, Bennett & Kahnweiler. "There are two routes you can take with a site: clean it up or put an engineered barrier over it," he says. Doing the latter is easiest. "The state regulatory agencies want only to make sure there is no human access or threat to safety," he says. He also finds that brownfields cost less than greenfields to develop, due to the economic support from the city.

Kahnweiler's company is partnering with businesses and developers to clean up 140-acre Goose Island (above), located in the north branch of the Chicago River, about one mile from downtown Chicago. The company is working with architects primarily on some of the island's adaptive reuse projects—gritty buildings that may themselves be contaminated.

Now we're in trouble

As every architect knows, money spent on the site means less of a budget for building design and construction. Developing brownfields brings additional costs and liabilities as compared to working on greenfields. For example, according to *Brownfield News* magazine, conducting an ASTM phase-one site assessment, a document which includes a site history, samplings of soil and groundwater, and an analysis of any structures on the site, can cost as much as $200,000, depending on the size of the parcel and its contents.

There are other costs as well, including environmental engineering fees, cleaning up pollutants or hazards—such as asbestos—in rehab buildings, and worker safety plans.

Environmental insurance, offered by some commercial insurance companies, can help mitigate costs and may even be required by some lenders. The insurance can cover surprises—finding pollution on the site that was unexpected, and mistakes—not getting the property as clean as expected.

Wendy Talarico

ENGINEERING FEATS OF THE LAST CENTURY

The National Academy of Engineering recently announced its list of the 20 engineering achievements that had the greatest impact on the quality of life in the 20th century. The list was compiled from more than 100 nominations.

Top-ranked was electrification, followed by the automobile, the airplane, safe and abundant water, electronics, radio and television, agricultural mechanization, computers, the telephone, air conditioning and refrigeration, interstate highways, space exploration, the Internet, medical imaging, household appliances, health technologies (including antibiotics and artificial implants), petroleum technologies, lasers and fiber optics, nuclear technology, and high performance materials (plastics, ceramics).

Tech Briefs

KEEPING COOL IN THE OFFICE IS NOT SO EASY AFTER ALL

Studies conducted in the United States on the subject of natural ventilation in office buildings show that office workers are likely to tolerate a wider range of temperatures if they have access to a window or other source for providing moving air within 8 to 12 feet of their workspace [see article page 281]. The research also says workers are happier if the temperatures are somewhat appropriate to the season. But recent research in Germany contradicts this theory and says office workers are not so tolerant after all, and that their level of productivity is affected greatly by the temperature in their work environment.

Workers are at peak productivity when the temperature within the office environment is 68 degrees Fahrenheit, the research says. That performance level declines to 50 percent when the temperature goes up to a steamy and uncomfortable 92 degrees Fahrenheit. For this reason, workplace guidelines in many German office buildings dictate that temperatures may not exceed 78 degrees Fahrenheit.

Additionally, research conducted in Germany's principal cities, including Munich, Frankfurt, and Dusseldorf, shows that natural ventilation cannot provide sufficient dehumidification to keep workers comfortable, even if the air is moving with sufficient velocity to evaporate sweat. Air conditioning is vital to reduce temperatures in these cities only 25 days per year, while it is necessary for reducing humidity 100 days per year.

The study also found that a temperature of 80 degrees Fahrenheit with 40 percent relative humidity is better for comfort and productivity than a temperature of 75 degrees Fahrenheit with 60 percent relative humidity.

IT'S FREE, IT'S GREEN, IT'S AVAILABLE ONLINE

GreenClips is an E-mail clipping service that summarizes articles on sustainable architecture, including energy efficiency, construction, and operation of buildings. It covers other sustainable design issues as well, such as water conservation, environmentally responsible building materials, waste reduction, and urban design. Its target audience is architects, engineers, urban planners, facility managers, builders, professors, students, and politicians.

Publisher Chris Hammer, an architectural researcher and environmental consultant, scans about 60 publications including specialty newsletters, professional journals, and dailies. *GreenClips* is published every two weeks, and each issue contains five to six clips which include the publication name, date, page number, and byline. To subscribe free of charge visit: http://listserv.energy.wsu.edu/guest/RemoteListSummary/GreenClips.

A BOOK FOR THE GODS

A compendium of recent religious structures, *Architecture for the Gods*, by Michael J Crosbie (192 pgs.) proves that religious buildings are a genre all by themselves. It also shows how incredibly different these divine structures can be—from North Dakota's traditional Gethsemane Episcopal Cathedral by Moore/Andersson Architects, to the bubble-topped Metropolitan Cathedral of Managua, Nicaragua, by Legorreta Arquitectos.

COMPUTER TECHNOLOGY AND HOW IT HAS CHANGED US

Computers and software used for architecture changed drastically within the past decade. As they evolved, their use increased; nowadays virtually no architects' offices are without a computer system or a CAD package. In one of its recent monthly issues, *A/E/C Automation* newsletter summarized the evolution and impact of the computer in eight points.

1. Computing is cheap. For about one-tenth of the cost of the early UNIX workstations, which ranged in cost from $20,000 to $50,000, users access about 100 times the power. Those early systems offered two to eight MB of memory and a 60 MB disk. Today, for a few thousand dollars, architects can buy a computer with 512 MB of memory and a 14 GB hard disk.

2. The decline of the turnkey system. At the start of the decade, there were two types of vendors: turnkey providers, such as Intergraph, and software providers, such as Autodesk. The first sold expensive systems that included all the hardware and software needed for a full-fledged system. The firms did all the training and technical support. As the decade progressed, however, users proved they were more interested in purchasing software alone and making their own choices for hardware. As a result, turnkey systems are, the newsletter says, "a thing of the past."

3. Bentley and Intergraph split. In 1989, Bentley Systems was a small software firm half-owned by Intergraph. Bentley developed MicroStation and Intergraph sold it. But as MicroStation's popularity grew, Bentley took over marketing responsibilities. The companies are still affiliated, but Bentley has further developed MicroStation while Intergraph has its own suite of applications. Bentley is planning a public offering in 2000, according to *A/E/C Automation*.

4. CAD goes mainstream. CAD is no longer used by teams of specialists; the "CAD Department" is no more. Everyone, it seems, has the software on their desktop. Part of the reason for this is that every student coming out of college was "weaned" on computers. "They see no reason to hand this work off to a group of specialists," the newsletter says.

5. Autodesk reinvents itself again. "There is no question that Autodesk created the mass market for CAD software," the article proclaims. Sales increased from less than 100,000 copies 10 years ago to more than three million copies of AutoCAD and AutoCAD LT. The company has since changed its emphasis from just AutoCAD to become a vendor of comprehensive design solutions, including Architectural Desktop, an architecture-specific version of AutoCAD, and Land Development Desktop.

6. Information management evolves. It used to be that data from completed projects was stored on a floppy disk or magnetic tape just in case it was ever needed. Now, with the growth of the database, past projects have become the starting point for future projects.

7. The Internet changes communication. In 1990, the Internet was a tool used by the academic community. Its explosive growth, fueled by commercialization, the development of the World Wide Web, and graphical Web browsers, is making access to the Internet as imperative as the telephone and the fax machine.

8. Project Web sites blossom. These Web sites, or extranets, are places where all project documentation is put so that it can be accessed by each of the project participants, based on their level of authorization. While not yet commonly used, these sites have incredible potential to foment further change for architects.

A multi-use stadium located in Guadalajara, Mexico, by Morphosis, Santa Monica, California. All modeling and rendering by Ung Joo Scott Lee.

The most complete set of modeling tools for 3D design.

Thom Mayne, Principal of **Morphosis**: "One of the most significant benefits derived from the integration of computer technology in the design studio is the ability to create both presentation material and construction documents out of the same epigenetic material. The 3D model utilizing **form•Z** is the initial departure point of the design process. A continual refinement of the 3D model both informs the design and brings another level of precision and coherence to the project. It's a tool which assists us greatly with the issues of simultaneity, which might be seen as the consistently singular issue of the 20th century."

3D solid and surface modeling software at its best, with photorealistic rendering, radiosity, and animation. Visit us at **www.formz.com** to download a free demo. Call (614) **488-8838** or fax (614) **488-0848** for information.

Mac

Microsoft Windows Compatible

autodessys INC

CIRCLE 106 ON INQUIRY CARD

MM SYSTEMS

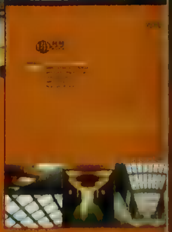
guaranteed
to never leak

...ever.

HOW can MM guarantee that these stunning skylights at the Mall of Georgia will never leak ...ever? Look again. These "skylights" are actually MM's Variable Beam Grid ceiling system posing as monumental skylights—minus the expense, maintenance and inevitable leaks. *Surprised?*

Project architects took advantage of VBG Series' inherent flexibility by calling for varying beam sizes, recessed cross-members and a barrel-vault effect. Don't forget the factory applied Kynar 500®/Hylar 5000® finish in a custom color.

Finally, to complete the illusion, white and blue cold cathode lights were hidden inside the larger beams. Through time-elapsed sequencing, the lights transform a nearly invisible gypsum ceiling into a sunrise, twilight or cloud dotted midday sky. VBG Series Ceiling Grids—even the sky is not the limit.



For a complete brochure on Series VBG custom ceiling grids and other interior specialties, call or write: MM Systems Corporation, 4520 Elmdale Drive, Tucker, GA 30084, (800) 241-3460.

MM
MM SYSTEMS
Forging the products of your imagination

Photo Credits: Mall of Georg
Architect: Thompson Ventulett Stainback and Associat
Contractor: Mulkey Enterpris

Kynar 500® is a registered trademark of Elf Atochem North America, Inc. / Hylar 5000® is a registered trademark of Ausimont USA

CIRCLE 107 ON INQUIRY CARD

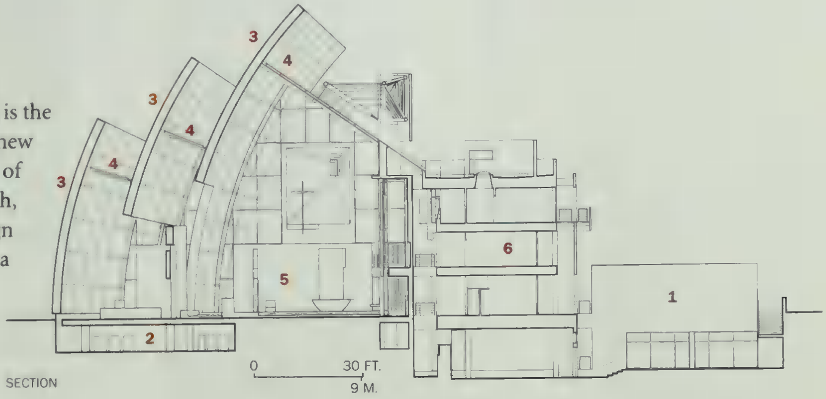
What? No Air Conditioning in this Building?

TAKING ADVANTAGE OF NATURAL VENTILATION REQUIRES SOME DESIGN COMPROMISES AS WELL AS BUILDING OWNERS AND OCCUPANTS WILLING TO TOLERATE TEMPERATURE FLUCTUATIONS.

By Nadav Malin

The Church of the Year 2000 in Tor Tre Teste, Italy, is the flagship project for a major initiative to build 50 new churches in the ecclesiastically bereft suburbs of Rome. In their winning proposal for the church, Richard Meier & Associates developed a dramatic design with large, upward-arching concrete shells—sections of a sphere—connected by glass walls that fill the space with soft, indirect light.

"The goal was to create a church that doesn't fight with the environment; the forms are closely related to that precept," says John Eisler, AIA, project architect. Minimizing mechanical equipment was a priority because the church, still under construction, will have no maintenance staff. "The parish priests who will maintain the church aren't trained in operating complex equipment," notes Eisler. Instead, the church will be cooled with natural ventilation.



1. *North courtyard*
2. *Basement airway*
3. *Concrete shells*
4. *Vented glass roof*
5. *Nave*
6. *Offices*

Richard Meier's Church of the Year 2000, outside Rome, uses air drawn through a crawl space on the north side of the building for cooling power.

Of course, the comfort demands of the once-a-week occupants of a village church are fewer than those of the nine-to-five tenants of modern office buildings. Within the past 50 years, engineers have made heroic efforts to meet these greater demands by creating sealed boxes with air that's conditioned by fans, motors, and refrigerants. The occupants may be able to predict, within a few degrees, the temperature of their space, but they still long for fresh, moving air and for a connection to the daily and seasonal cycles. They also yearn for greater personal control over their space, the control that comes with being able to open and close a window.

Natural ventilation provides this control and is often a cost-saving feature of energy-efficient buildings, although in most cases the energy savings are due more to an overall climate-responsive design than to the natural ventilation alone. Overall, savings are in the range of 10 to 25 percent as compared to similar buildings without natural ventilation. Achieving these energy savings, along with the other benefits of natural ventilation, requires a careful assessment of climate, occupant expectations, and occupant behavior.

Solar shading, orientation for breezes, use of materials with high thermal mass, and other measures that might be recommended to conserve energy in some mechanically conditioned buildings become more critical in naturally ventilated buildings because they directly affect occupant comfort. For example, the large, curving concrete shells that shield the Church of the Year 2000 from the Mediterranean sun would be a good

Nadav Malin is editor of Environmental Building News *and a regular speaker and consultant on environmentally responsible construction practices.*

CONTINUING EDUCATION

CONTINUING EDUCATION AIA

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 290 and follow the instructions.

LEARNING OBJECTIVES

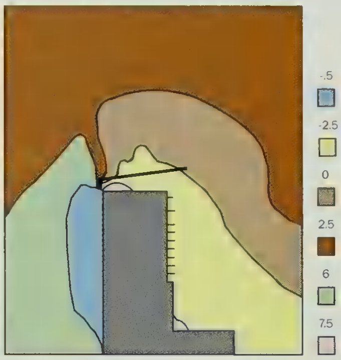
After reading this article, you should be able to:

1. Describe how building design can take advantage of natural cooling.

2. Explain how to control comfort with natural cooling.

3. Describe the benefits and disadvantages of using natural ventilation for cooling.

WWW *For this and more continuing education go to:* **www.architecturalrecord.com**



MENARA UMNO, PENANG, MALAYSIA. Though the average summer daily temperature in Penang (bottom) is close to 90 degrees Fahrenheit and humidity reaches 76 percent, occupants of the 21-story office building (below) can use natural ventilation or air conditioning to stay cool. Designed by Malaysian architects T.R. Hamzah & Yeang, the structure optimizes passive cooling strategies, including wing walls (short walls placed perpendicular to openings) to collect and direct air through the openings (left) and into the floor spaces. Using computer programs, wind flow around the building was measured (top). The building also uses solar shading devices (left) and daylighting to keep occupants cool.

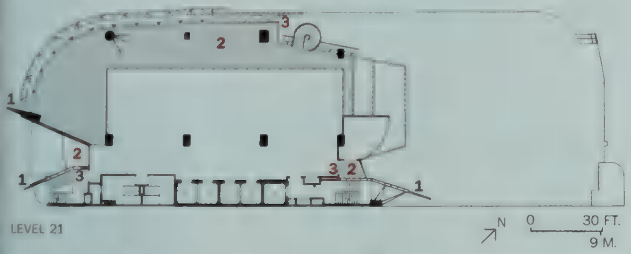
idea even if the building were air conditioned, but without air conditioning they are essential to keep the interior from overheating.

Meier's church brings air from the shaded north side of the building through an underground crawl space, where it will be tempered by the cooler temperatures of the earth. "On a hot summer day, the air coming from the underground intakes will be five to nine degrees Fahrenheit cooler than the outdoor air," Eisler says. The underground chambers through which the air will flow were needed anyway to post-tension the steel cables in the curved concrete elements, so this approach proved economical as well. Because air rises as it warms, a natural convection current is created in the church as fresh, cool air is drawn through this crawl space and hot air is exhausted through operable vents in the glass between the concrete shells and at the roof level.

How it works

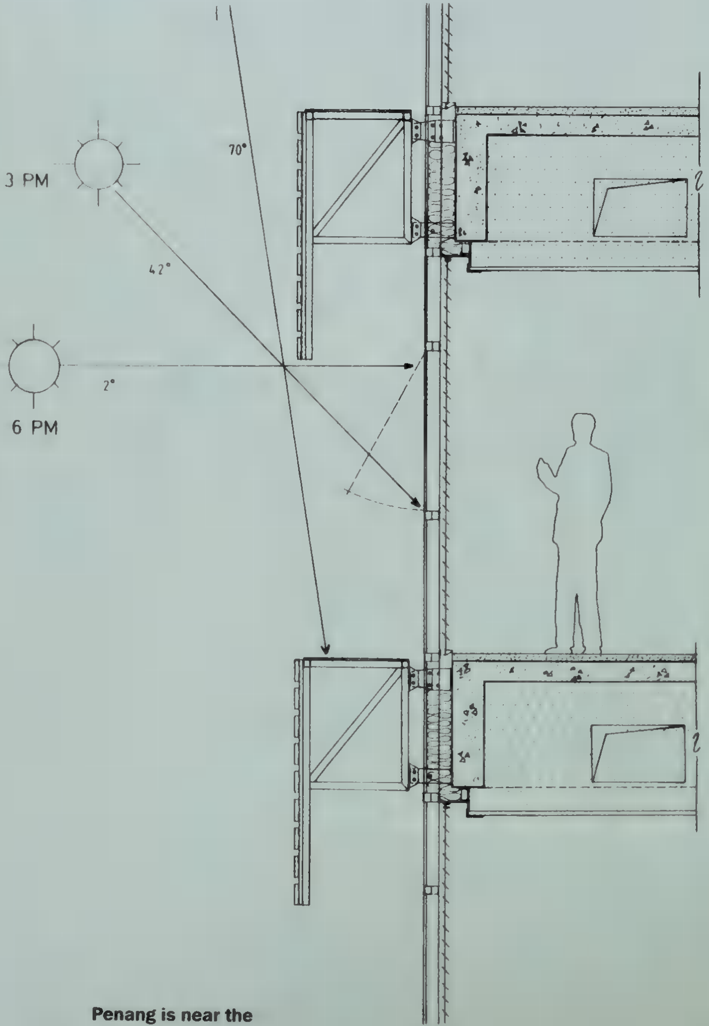
Natural ventilation may simply refer to operable windows within a building, or it may imply carefully engineered airflows driven through the building by wind and temperature differences or by fans. Natural ventilation may be intended to replace air conditioning entirely or, as is more often the case in large buildings, to coexist with mechanical systems in what is called "mixed mode."

Buildings that rely on natural ventilation may be more expensive initially, due to the higher costs of operable windows and solar controls. But this is offset by avoiding expenditures on mechanical ventilation equipment and the energy it consumes. In mixed-mode buildings, which require operable windows and other natural-ventilation systems, as well as mechanical ventilation equipment, construction costs tend to be higher.

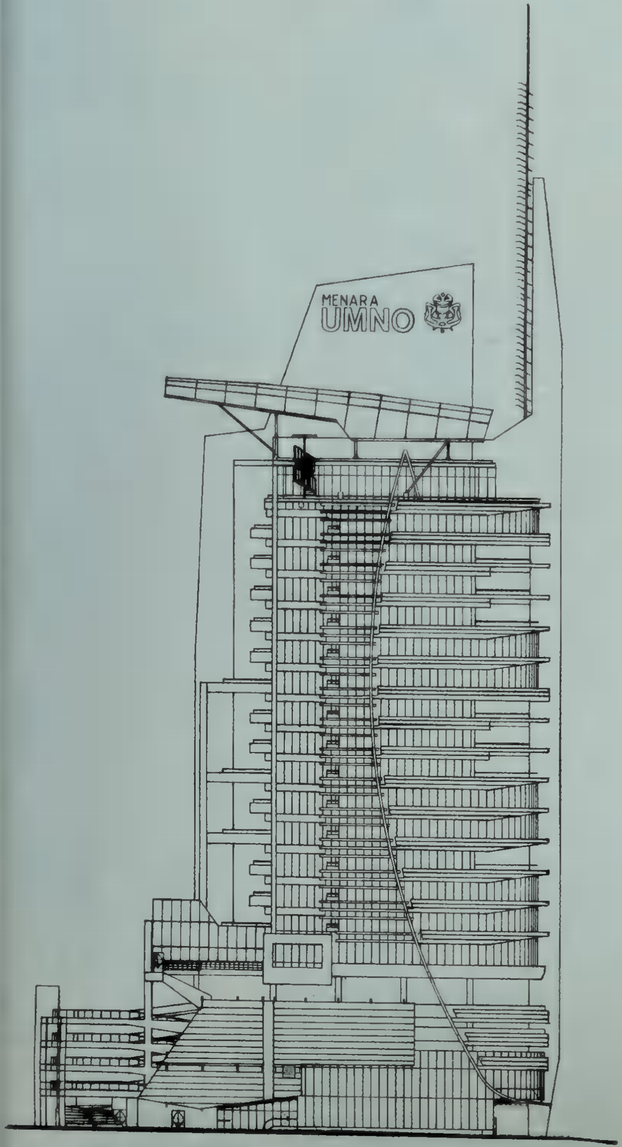


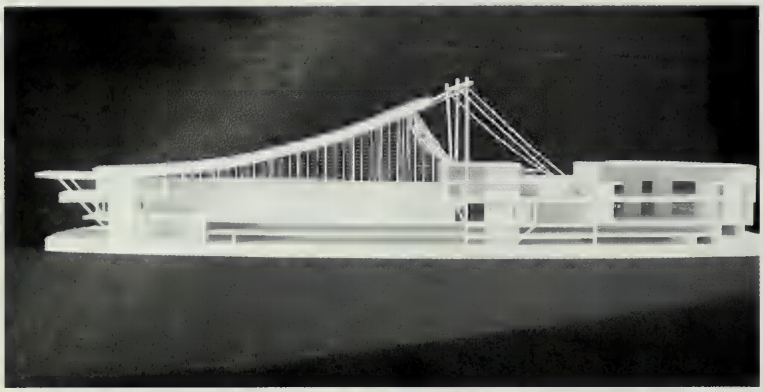
1. *Wing wall*
2. *Balcony*
3. *Operable door*
4. *Operable window*

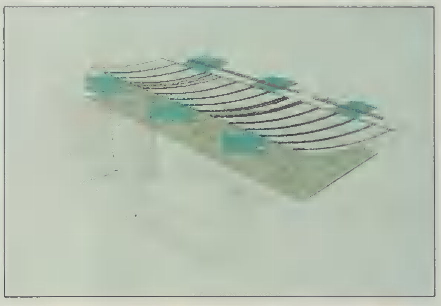
Multiple openings, including sliding doors and windows, allow cross ventilation. Shady balconies are a pleasant space for workers to take a break. Spiral stairs between the balconies offer a unique way to get from floor to floor and still take in the views.



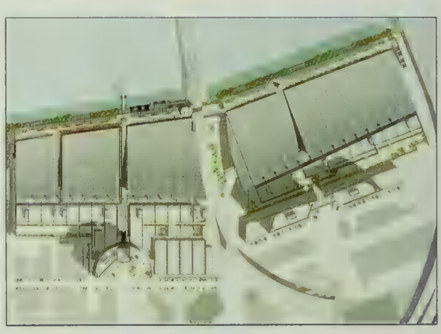
Penang is near the equator so the sun is almost directly overhead. Aluminum shading devices deflect direct sun. Operable windows provide office workers with a sense of control over their workspace (above).







DAVID L. LAWRENCE CONVENTION CENTER, PITTSBURGH £3A mixed-mode building, the convention center will be naturally ventilated much of the year, particularly the exhibition hall, which runs the length of the building, and circulation spaces (top). Strips of intakes along river and city sides of the long, narrow building (bottom photo and plans) introduce cool air. Plenums conduct it within the building and exhaust it at the roof.



Natural ventilation is more successful in moderate climates and with certain building types. "A combination of climate and function determines when passive ventilation is doable," says Alisdair McGregor, a specialist in natural ventilation with Ove Arup & Partners in San Francisco. For example, coastal California, Oregon, and Washington are climatically appropriate—if the building is not too big and internal and if solar gains are not too high.

Another controlling factor is humidity. In steamy climates, chillers work as much or more to remove moisture from the air as to reduce the actual air temperature. Introducing humid air—even if it is relatively cool—into a partially air-conditioned building will make the chiller work harder to remove that moisture. Also, dampness is stored in the materials and furnishings of the building. High humidity in paper causes problems for toner in copiers and laser printers, for example. All this means that it takes a long time for a space to cool down and dry up after an influx of moist air.

Increasing airflow makes people more comfortable at higher temperatures, whether the breezes come from windows or fans. This is called comfort ventilation. Higher indoor air speed is particularly effective in a humid environment because sweat evaporation from the skin makes occupants feel cooler.

Building design influences how much air enters a space and at what velocity. Natural-ventilation design requires a return to design principles that were commonplace before mechanical air conditioning took over in the post–World War II era. Kenneth Yeang, an architect with T.R. Hamzah & Yeang in Malaysia, together with Phil Jones, an architecture professor at the University of Cardiff in England, and Richard Aynsley, a wind consultant and professor at James Cook University in Queensland, Australia, researched the subject and developed techniques that boost natural cooling. One of these is building configuration—most naturally ventilated buildings are designed with narrow, unobstructed floor plans and windows or openings positioned so that occupants are within easy reach of an outdoor-air source. Desks are a maximum of 23 to 26 feet from a window. Erik Ring, a researcher at the University of California in Berkeley, says successful, naturally ventilated spaces typically only have a plan depth of 40 to 50 feet, quite a bit narrower than most modern commercial buildings.

Other techniques to boost cooling include building orientation in relation to the path of the sun and the wind; facade design, including the use of balconies, windows, and air intakes; solar protection, including sunshades and other solar-deflection devices; use of passive lighting, such as skylights, which saves energy and lowers internal heat buildup; vegetation and landscaping to provide shade; and the color of the building.

One of Yeang's naturally ventilated projects is the 21-story Menara UMNO office building in Penang, Malaysia, completed in 1998.

INCREASING AIRFLOW MAKES PEOPLE COMFORTABLE AT HIGHER TEMPERATURES.

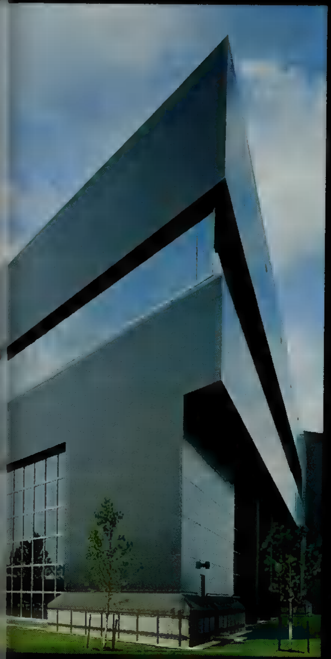
Penang, near the equator, is warm in the summer—an average of 90 degrees Fahrenheit during the day, with humidity levels hovering around 76 percent. Offices have a high internal heat load from lighting, machines, and people. Fortunately, the building is on an open site, which means there is little to interfere with the prevailing breezes.

Yeang positioned the building to "collect" the wind at an oblique angle—generally 30 to 60 degrees away from the direct impact. This angling creates a pressure gradient along the windward walls, increasing wind velocity. Wing walls, small projecting walls placed perpendicular to

A Panel Discussion

When you're talking design flexibility, contemporary appearance and affordability, you're talking Alucobond® Material. Created 30 years ago as the first-ever aluminum composite material or ACM, Alucobond Material has contributed to the design excellence of more than 50,000 buildings worldwide. Alucobond Material's success is due in part to its network of distributors/fabricators–clearly the best in the industry. These partners offer unequaled knowledge and expertise regarding all aspects of fabricating and installing aluminum composite material. And that translates into unequaled benefits for you. So consider Alucobond Material for your next design challenge. You'll experience the confidence that comes only with the best product and people in the industry.

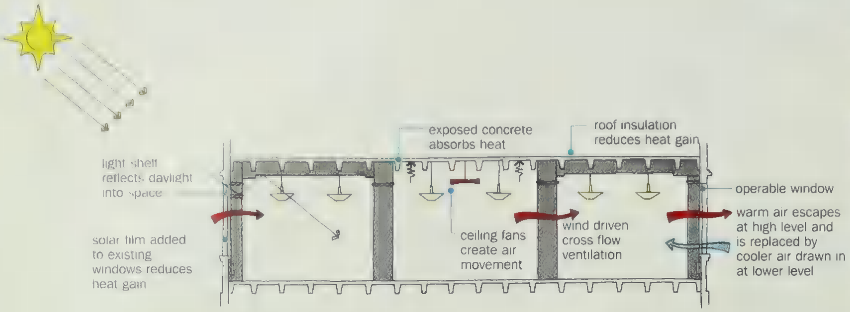
ALUCOBOND®
MATERIAL



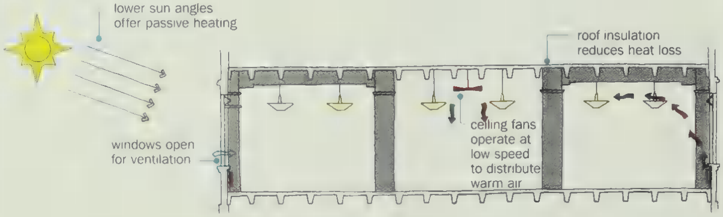
alusuisse composites

Alusuisse Composites, Inc.
P.O. Box 507 • 208 W. 5th Street • Benton, KY 42025•0507
800-382-6445 • 270-527-4200 • Fax 270-527-1552
www.alusuisse-comp.com

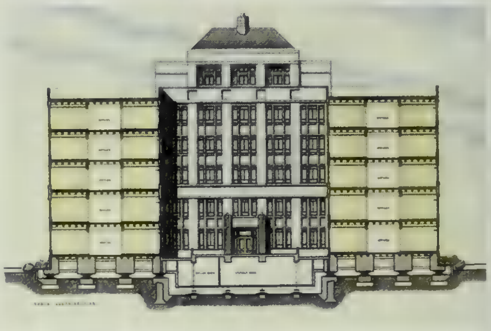
CIRCLE 108 ON INQUIRY CARD


exposed concrete absorbs heat
roof insulation reduces heat gain
light shelf reflects daylight into space
solar film added to existing windows reduces heat gain
ceiling fans create air movement
wind driven cross flow ventilation
operable window
warm air escapes at high level and is replaced by cooler air drawn in at lower level

SUMMER TIME CONDITION


lower sun angles offer passive heating
roof insulation reduces heat loss
windows open for ventilation
ceiling fans operate at low speed to distribute warm air

WINTER TIME CONDITION



MARTIN LUTHER KING, JR. CIVIC CENTER, BERKELEY

When this civic center (top right) was built in 1940, it relied on natural ventilation for cooling, like most pre-war buildings. In the recent renovation by Elbasani & Logan Architects, the flow of air, light infiltration, and passive solar gain, were carefully considered (left, bottom right). Operable windows and an open plan encourage air flow.

the major ventilation openings, act as pockets or scoops to collect the wind and further increase airflow in the floor spaces. The building also includes balconies at either end of each floor, with operable doors to allow cross ventilation. Windows opposite the balconies also admit breezes.

There is a limit, however, to how much air movement can be increased in office buildings. "If papers are not flying around, the comfort zone can be extended about two degrees Fahrenheit with extra air motion—using a ceiling or oscillating fan at low speeds, or strategically placed open windows with inlets directed at people," says Subrato Chandra, a researcher at the Florida Solar Energy Center. Windows are good for releasing heat when it is cooler outside than inside, but fans are a better way to create consistent airflow, Chandra says.

A combination of systems

Mixed-mode buildings are more common than naturally ventilated buildings; they are more practical in extreme climates and provide building owners with some backup in case occupants are uncomfortable. It's not easy to find mechanical engineers willing to work with mixed-mode systems, however. Integrating the passive and mechanical air-distribution systems is tricky, and most engineers prefer not to deal with the less-than-predictable variable of occupants who undermine the mechanical system by opening their windows when the equipment is operating.

Many mixed-mode spaces switch from natural to mechanical ventilation on a daily or seasonal basis. Rafael Viñoly's 1.3 million-square-foot David L. Lawrence Convention Center in Pittsburgh, to be completed in 2003, will switch to natural ventilation when outdoor conditions allow it. The large exhibit hall and circulation areas, for example, will be naturally ventilated much of the year, according to Dave Lineman, director of engineering for Burt Hill Kosar Rittleman, who's collaborating with Viñoly on the project. Cool air, conducted via plenums from openings along the river- and the city-end of the building, will be distributed to meeting rooms as well. This type of cooling is especially appropriate when convention displays are installed and dismantled, since little heat is generated during these times and comfort needs are fewer. The natural ventilation is likely to save about 25 percent in energy costs over comparable buildings, Lineman says.

The pros and cons

Because it fundamentally affects both building form and mechanical systems, natural ventilation requires extremely close collaboration between architects and engineers. "I can't think of anything, except possibly daylighting, for which design integration is more essential," says Harry Gordon, AIA, with Burt Hill Kosar Rittleman.

MIXED-MODE BUILDINGS ARE MORE COMMON THAN FULL NATURAL VENTILATION.

Close collaboration with clients, who must recognize that indoor climate conditions will be more variable than in a conventional air-conditioned building, is also needed. In specifying the allowable conditions, it is best not to set absolute limits on acceptable indoor temperatures, McGregor says. "Specify allowable variances instead, in terms of how many hours the space will be above a given temperature," he suggests. "Those terms are more acceptable to clients."

Designs for natural ventilation typically require open areas in which large volumes of air flow naturally through a building. This open-

More experience
More than 40 years of service to the AE community
More professional liability policies in force
More local claims specialists
More pre-claims assistance
More ways to help you manage risk
More services that help your business grow
More coverage
More professional liability programs
More than $300 million in underwriting profits returned to insureds
More on-line information from our web site
More ways for you to save money
More premium credits for mediation
More design-build coverage
More international business consulting

Sometimes, more is more ...

More coverage available to design firms in all 50 states
More claims service
More programs for landscape architects
More property and casualty coverage
More circumstance reporting
More legal defense attorneys
More success in defending design professionals
More loss of earnings reimbursement
More and higher limits of liability
More premium credits for good claims experience
More regional risk management seminars
More voluntary education program services
More continuing education credit
More contract reviews
More professional liability newsletters
More legislative and regulatory updates
More joint venture coverage
More programs for specialty consultants
More pollution liability coverage
More worldwide coverage
More construction management coverage
More equity interest coverage
More programs for architects and engineers
More programs for land surveyors
More first dollar defense coverage
More programs for environmental consultants
More premium credits for longevity
More split limits
More and wider ranges of deductibles
More prior acts coverage
More employment practices liability coverage
More than a promise
More optional coverages
More multi-year policies
More guaranteed premiums
More premium credits
More simplified applications
More premium payment plans
More features that offer program flexibility
More premium credits for risk management
More reasons why we're the market leader
More financial strength
More professional society commendations

When someone tells you less is more, make sure they're not talking about your insurer's claims and risk management services.

For more information on our insurance programs for design professionals, contact your independent agent or broker, or call 301-951-9746. Visit us at Schinnerer.com

This advertisement is for illustrative purposes only and is not a contract. Only the insurance policy can provide terms, coverages, amounts, conditions and exclusions. CNA is a registered service mark and trade name of CNA Financial Corporation. This program is underwritten by Continental Casualty Company, a CNA company, and is managed by Victor O. Schinnerer & Company.

Victor O.
Schinnerer
& Company, Inc.

CNA PRO

CIRCLE 109 ON INQUIRY CARD

ness may make it more difficult to pressurize corridors and prevent smoke migration in case of fire. "Fire code issues come into play particularly in high-rise buildings," McGregor adds. "Often more fan power is needed to control the pressure with the windows open."

Buildings that rely solely on natural ventilation may also expose occupants to unwanted noise and dirt from outdoors. "If you're designing a building that relies on open windows, then chances are you'll have a noise issue," McGregor says. Buildings that depend on open windows must either be located in quiet settings or have clients willing to tolerate some degree of noise intrusion—asking someone on the telephone to hold while a fire truck goes by, for example.

PUBLIC BUILDINGS ARE GOOD CANDIDATES FOR NATURAL VENTILATION.

Acoustics can also be an issue indoors. The additional openings provided for airflow increase noise transmission. This problem, common to many open-plan spaces, can be remedied with noise-absorbing finishes on interior surfaces. Rarely are these acoustical issues insurmountable, but they do require careful attention from the early stages of design. Also, many occupants site a lack of noise from mechanical systems as an advantage of natural ventilation.

Public buildings often contain activities less interrupted by noise and temperature variations than typical office buildings, and they are therefore likely candidates for natural ventilation. A good example is the Martin Luther King, Jr. Civic Center in Berkeley, Calif. A city landmark designed by James Plachek and built in 1940, the building was recently renovated by Elbasani & Logan Architects. Their work retains the building's reliance on natural ventilation, while enhancing comfort with improved airflow and reduced solar gains.

Finally, interior air quality is normally improved with natural ventilation. Concerns about sick-building syndrome and off-gassing of furnishings and other interior elements are greatly diminished. The exception would be a structure in a heavily traveled area, where dust and fumes would enter the space. Another concern is pollen infiltration in rural settings. Without the filters provided with conditioned air, allergy sufferers are likely to be more uncomfortable.

Operable windows

Randy Croxton, AIA, of Croxton Collaborative Architects in New York City, tries to provide operable windows in all the buildings he designs. "You cannot underestimate the value of operable windows for the sense of individual control in terms of productivity and comfort," says Croxton. He also insists on providing high volumes of outside air—100 percent when climate conditions permit—via the mechanical systems, so the occupants rarely feel the need to open the windows. The outside air passes through high-performance filters and is delivered, via ducts and diffusers, at a speed high enough for occupants to feel the air moving.

"If you have these layers of quality built into the air, people aren't inclined to open windows anyway," Croxton reports. He has used this combination of high-quality mechanical ventilation and operable windows successfully on several projects, including Chattanooga's new Development Resource Center, designed in partnership with Chattanooga-based Artec, and currently under construction.

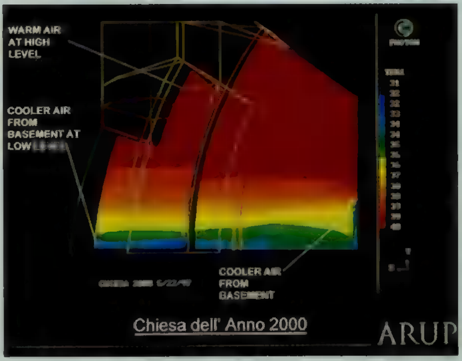
Mixed-mode buildings sometimes include locks that prevent occupants from opening windows when the air conditioning is on, or stops that prevent the windows from opening fully. The windows in Croxton's 1995 American Association for the Advancement of Science building in Washington, D.C., for example, are restricted in how far they can open. In other instances, the occupants are trusted not to undermine the mechanical system. This is the case at the new computer sciences facility at York University in Toronto, designed by Van Nostrand and Di Castri Architects of Toronto in joint venture with Busby + Associates Architects of Vancouver. Occupants will be encouraged to use the windows during swing seasons,

Getting cool help for architects

Understanding the climate in which one intends to build is always a good idea, but it is especially critical for naturally ventilated and mixed-mode buildings. Architects increasingly rely on computer software for this help.

One simple but useful tool is Climate Consultant, developed by Murray Milne and his students at the University of California at Los Angeles. Climate Consultant takes standard weather-data files and displays them in relation to a comfort zone on a psychrometric chart, which plots temperature and humidity. Climate Consultant, along with weather files for many U.S. locations, is available as a free download from www.aud.ucla.edu/energy-design-tools.

At the other extreme in terms of complication is Computational Fluid Dynamics, or CFD. This software models the amount of airflow through a building, based on wind pressures and temperature differences. CFD programs tend to be complex and require quite a bit of training, so an architect or engineer is more likely to contract with a specialist to perform the analyses.



CFD model for Meier's Church of the Year 2000.

Burt Hill, for example, is working with Brian Ford, a CFD expert with Brian Ford Associates in London, for the Pittsburgh Convention Center. One of the strengths of a good CFD analysis, especially for buildings with large volumes, is that it can show how conditions will vary in different portions of the space. There might be pooling of uncomfortably hot air near the ceiling, for example, but if the occupied zone is comfortable, that hot air is not problematic.

Even good CFD studies with positive conclusions are not always enough to convince clients, however. Engineers at Southern California Edison, learning that all schools are naturally ventilated in San Diego, commissioned CFD studies of a new elementary school for Newport Beach, Calif., in hopes of demonstrating how this low-tech approach can work. The study showed that comfortable conditions could be maintained in the occupied zones under all design conditions, but the school district decided to go with an air-conditioned, sealed building anyway. One reason for this choice is that the facilities staff was concerned that if people had complaints, there would be no equipment to adjust or fix.

Interestingly, the CFD studies also showed that the school district's mandated red-tile roof would have resulted in slightly less comfortable conditions than if a heat-reflecting, light-colored roof were used. *N.M.*

arrival

00

KEILHAUER

Please contact Keilhauer for your nearest representative
1 800 724 5665

FOLLANSBEE'S

ENVIROMETALS®

TCS II® AND TERNE II®

roofing metals coated with a revolutionary new alloy that enhances their corrosion resistance even in chemically-polluted and marine atmospheres

Drawing on more than a century of experience in producing roofing metals, Follansbee has now created a new alloy which is environmentally sensitive and enhances a roofing metal's corrosion resistance in severe atmospheres such as those encountered in chemically-polluted and marine environments.

Developed by Follansbee over a 7-year period of testing in laboratory and field conditions, the new ZT alloy does not rely on the sulphur content of the atmosphere to develop its protective and attractive gray patina. The ZT alloy is oxygen-reactive, therefore, it develops its patina under all ambient conditions–rural, industrial or marine.

Follansbee now offers TCS II and TERNE II, roofing metals coated with lead-free ZT alloy. Many prominent architects are already specifying these Follansbee roofing metals, and feel as we do, that they are roofing products which meet the demanding construction needs of the coming century.

We will be happy to send you complete information on TCS II and TERNE II and the new ZT alloy. Call us toll-free, 1-800-624-6906.

Creating outstanding roofing metals for more than a century

FOLLANSBEE®

FOLLANSBEE STEEL • FOLLANSBEE, WV 26037
FAX 1-304-527-1269

Visit us on
the Website:
folrfg.lbcorp.com

Our E-Mail
address:
folrfg@lbcorp.com

CIRCLE 110 ON INQUIRY CARD

when natural cooling will be relied upon. "There will be a 'how the building works' card for every office," says Mike McColl of Busby + Associates. The card will tell occupants when to keep their windows open.

The building also has an atrium with openings at the base and at the top. These will be automatically opened or shut to optimize or limit airflow through the space, depending upon ambient temperatures. In midsummer and winter, when conditions are not conducive to natural ventilation, the mechanical system will draw naturally cooled or warmed air from underground circulation tunnels, which connect the buildings on campus, and pump it into the building.

Ahh, the night air

Flushing heat out of a building with cool nighttime air is an energy-saving strategy sometimes used with naturally and mechanically ventilated buildings. Night flushing is most effective in climates where hot days are accompanied by cool nights. These climates also tend to have drier air—which is important in order to avoid the pitfalls of introducing humid air into partially air-conditioned spaces.

Night flushing requires some exposed high-mass surfaces that can store heat during the day and release it at night as the cooler air moves through. In the Martin Luther King, Jr. Civic Center in Berkeley, the mass was provided by removing the dropped ceiling in some spaces to expose the underside of the concrete floor slab.

Raised access floors are increasingly common in buildings designed for night flushing. By containing mechanical air distribution, cable management, and other services under the floor, these systems make it relatively easy to eliminate a dropped ceiling entirely, which in turn makes the concrete slabs above available for thermal mass.

At what price comfort?

Thermal comfort is determined by clothing and activity level, air temperature, humidity, air speed, and radiant temperature (the temperature of nearby surfaces). Every individual's allowable comfort range varies. The American Society of Heating, Refrigeration, and Air-conditioning Engineers (ASHRAE) and the International Standards Organization (ISO) have defined narrow allowable ranges of temperature and humidity for various building types.

OCCUPANTS MUST BE WILLING TO DRESS APPROPRIATELY FOR THE SEASON.

Although these ranges were developed for centrally controlled, air-conditioned buildings, it is often assumed that they should apply to naturally ventilated buildings as well. Recent research shows that in naturally ventilated buildings occupants are comfortable in a wider range of temperature and humidity conditions. The researchers proposed a separate standard for naturally ventilated buildings to account for this wider range. This alternate standard is likely to be included in a future revision to ASHRAE's standards.

In the York University project, which deals with the thermal comfort issue by separating the building into zones with differing temperature set points, the conventionally established comfort temperature of 70 degrees Fahrenheit will be maintained in offices, while in lecture halls summer temperatures will be allowed to climb to 74 to 75 degrees Fahrenheit, and to 81 degrees Fahrenheit in circulation spaces. "Clients must either hope for stimulating lectures or be willing to dress appropriately for the season," McGregor says. ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "What? No Air Conditioning in This Building?" using the learning objectives provided.**
- **Complete the questions below, then check your answers (page 408).**
- **Fill out and submit the AIA/CES education reporting form (page 408) or file the form on ARCHITECTURAL RECORD's Web site at www.architecturalrecord.com to receive one AIA Learning Unit.**

QUESTIONS

1. What building-design features boost natural cooling?

2. How does the climate affect the design for naturally ventilated buildings?

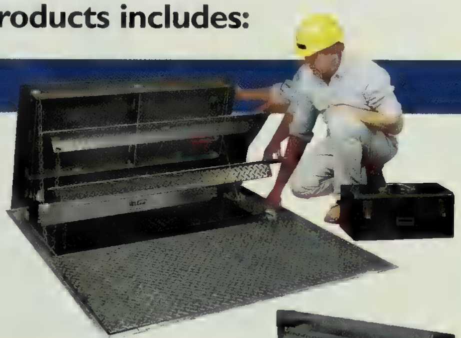
3. What are the drawbacks of using natural ventilation?

4. How are buildings designed to take advantage of natural cooling?

5. How are the standards for allowable temperature ranges related to natural ventilation?

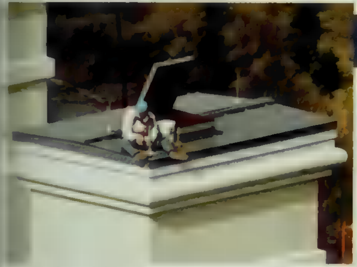
Designed To Perform . . . Built To Last

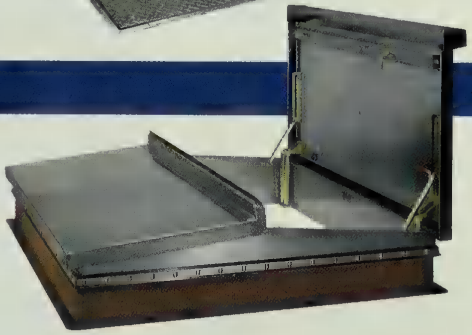
Since 1926, Bilco access products have featured innovative design, exceptional workmanship and superior performance. Bilco's line of access products includes:



Floor, Vault and Sidewalk Doors

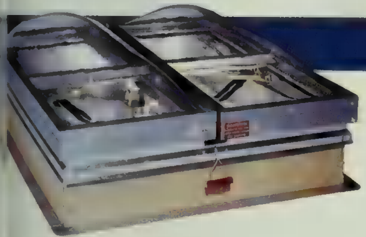
Heavy duty doors with counter-balanced covers ensure smooth, easy and controlled one-handed operation. A variety of models, ranging from Fire-Rated floor doors to doors reinforced for special loading conditions, are available.





Roof Hatches

Their rugged durability, ease of installation, effortless operation and weather-tight construction make Bilco roof hatches the industry standard.



Automatic Fire Vents

Bilco fire vents automatically release to vent heat, smoke and gases in the event of a fire. A wide range of UL-listed and FM-approved vents and a variety of options are available.

Better Living Basements™

Bilco's residential product line, including basement doors and window well systems, add daylight, ventilation, convenient access, and code compliance to basement areas, creating valuable lower level living space.

rom architects and specifiers to tradesmen and end-users, Bilco's reputation for high uality and product performance is unequaled.

Bilco®

Since 1926

For more information, catalogs, or CD-Rom, call (203)934-6363 *or log on to www.bilco.com*

CIRCLE 111 ON INQUIRY CARD

© 2000 The Bilco Company.

See us at the NFPA Show, Booth #559

Mix brick and mortar with your index finger.

BoralVision®
A brick imaging program for ARCHITECTS

Point. Click. Choose a brick. Choose your mortar and paint, too. It's that easy with BoralVision for Architects. Compatible with most CAD software, our computer imaging system allows you to mix and match many brand name products, like Blue Circle® Cement and Boral Bricks, until you find the colors and styles that work best with your design. And when it's time to make a presentation, BoralVision gives you a fast, cost-effective way to print as many high quality renditions as you have ideas. Find out how BoralVision can help you enhance your designs and presentations. To locate your nearest Boral Bricks distributor, call 1-800-5-BORAL-5.

BORAL BRICKS®
A SOLID DECISION®

•FREE OFFER•

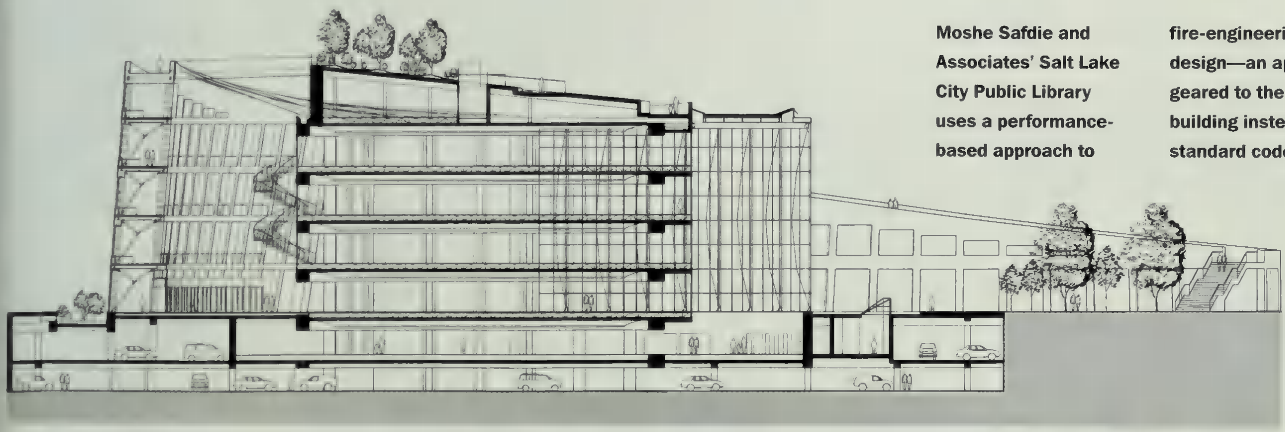
For a limited time, architects can receive a complimentary BoralVision for Architects CD. Simply call 1-800-5-BORAL-5 or visit our website at www.boralbricks.com and order yours today. (Refer to Code #AR-0998.)

BoralVision is a trademark of Boral Bricks

CIRCLE 112 ON INQUIRY CARD

Analyzing Fire Risks Building by Building

PERFORMANCE-BASED FIRE PROTECTION LETS ARCHITECTS FOCUS ON A BUILDING'S DESIGN OBJECTIVES, INSTEAD OF SEARCHING FOR WAYS TO MEET GENERIC CODE PROVISIONS.



Moshe Safdie and Associates' Salt Lake City Public Library uses a performance-based approach to fire-engineering design—an approach geared to the specific building instead of standard codes.

By Brian J. Meacham

There is a small slice of atrium space near the entry to Moshe Safdie and Associates' Salt Lake City Public Library, now in early construction, that its architects have nicknamed "the canyon." The space serves several purposes. It brings light to all the floors, signals the entry to the different portions of the building, and, most important, as project manager Isaac Franco, AIA, explains, it provides a place "to read the building in its totality as soon as you walk in."

The canyon, as designed, would violate standard code: Partitions would be required. Other aspects of the building would have to change to accommodate code. Given these challenges, the architects turned to fire engineers Arup Fire to develop a performance-based approach for the library. Performance-based fire protection means that design objectives, performance criteria, and engineering methods are geared to fire protection, rather than to the materials, assemblies, or dimensional specifications, which are defined—and often limited—by code. The focus is on the desired features of a particular building and its use, not on compliance with a set of requirements developed to address a generic class of buildings.

For architects like Safdie, this more flexible approach allows greater design freedom without increased safety risks. "There's no question that safety is the most important criteria for fire analysis," Franco

Brian J. Meacham was formerly with the Society of Fire Protection Engineers, where he was instrumental in developing the SFPE Engineering Guide to Performance-Based Fire Protection Analysis and Design of Buildings. *He is a principal fire engineering consultant with Arup Fire.*

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 304 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. Explain when a performance-based approach is most feasible for building design.

2. Describe how performance objectives are translated into building design.

3. Describe the process of analyzing design-fire scenarios.

WWW *For more continuing education go to:* **www.architecturalrecord.com**

CASE STUDY

Project: *Regional Performing Arts Center, Philadelphia*
Architect: *Rafael Viñoly Architects*
Fire-protection engineer: *Hughes Associates Inc.*

Plunking smoke-evacuation fans into the glass membrane that arches over the Regional Performing Arts Center (scheduled for completion in December 2001) would have required "an entirely different design," says Sandy McKee, AIA, project manager for Viñoly. But that's what conventional Philadelphia fire codes required for the large atrium space. "Early on, everyone knew the smoke situation would be difficult to design around," McKee says. "We knew we'd have to come up with something different."

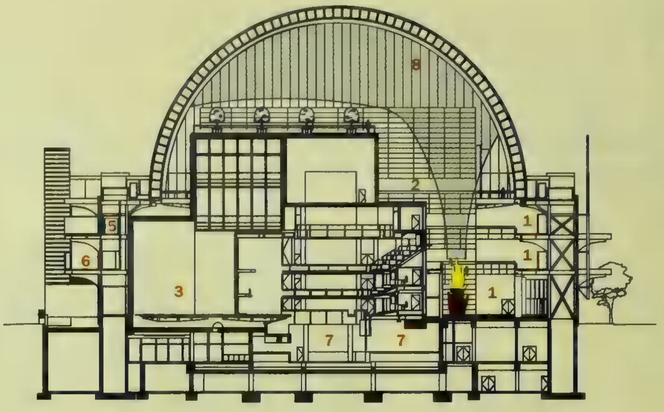
Spanning two city blocks, the project features a six-story glass atrium measuring 175 feet in diameter. Within the atrium are two freestanding volumes: a 750-seat, cube-shaped recital theater and a 2,500-seat wood-clad concert hall. A roof garden crowns the recital theater.

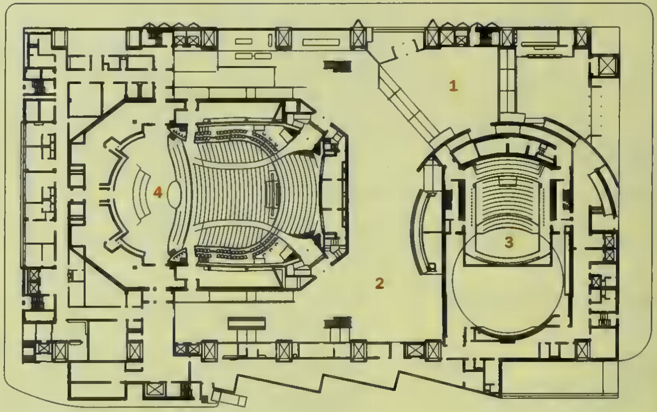
Local code requires smoke control for all atria that connect more than two levels in order to allow safe egress and to prevent smoke from migrating to other areas of the building. In the center, that would have meant installing fans in the glass roof and the endwall, an elegant glass membrane designed to move with the wind. But putting in fans to meet the code would have violated the goals of the building's stakeholders: to maintain the design aesthetic while also ensuring life safety.

Working with Hughes Associates, Viñoly's office explored other options for evacuating smoke. The engineers used computer fire models to explore different fire scenarios and solutions. They also performed a timed egress analysis, which they compared to the progress and toxicity of the smoke.

The solution took advantage of the atrium's size, using it as a reservoir for smoke. Building materials were also selected to minimize toxicity. And operable vents in the roof and walls will help exhaust smoke.

"We were allowed this variance, but we had to be simple and clear in presenting it to the officials," McKee says. "It's always the role of the architect to get everyone to agree, but it was the role of the fire engineers to help everyone understand the goals and solutions."





1. *Lobby*
2. *Atrium*
3. *Recital theater*
4. *Concert hall*
5. *Education center*
6. *Donor's lounge*
7. *Storage*
8. *Smoke layer*

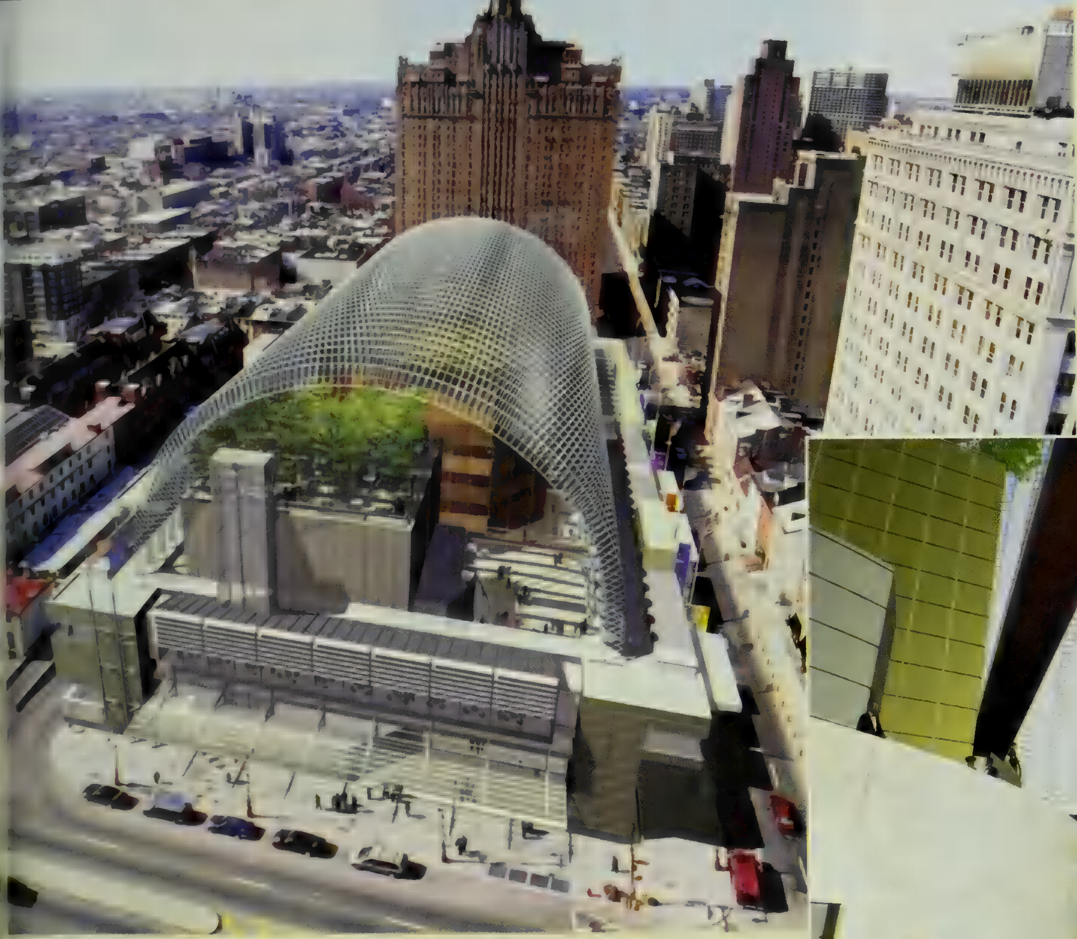
says. But a performance-based approach provides "a way to analyze safety risks more carefully and respond to them with a design targeted to this building. It's a more informed approach. Code would not have allowed us to maintain this transparent and open building design."

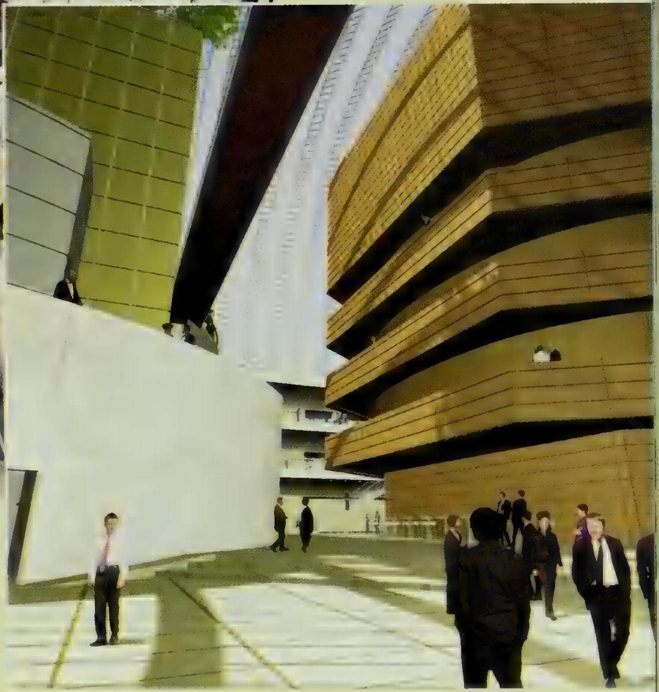
Although performance-based design can apply to any building, it is most effective for complex and unusual structures, particularly those that don't fit well within the guidelines prescribed by codes. Examples include convention centers, shopping malls, airport terminals, healthcare facilities, and high-rise atria buildings, all of which pose different egress problems and benefit from careful analysis of the construction materials used. Museums and historic structures are similarly challenging because they must balance aesthetics and historical preservation with fire-safety concerns. Factories, especially those with sensitive or hazardous processes, require special attention, as do critical facilities, such as transportation command centers, where one small fire could have disastrous results.

A performance-based design will likely cost more to develop than one based on prescriptive measures, although these initial costs can result in long-term savings. For example, a performance-based design that excludes fire protection of exposed structural steel members saves on fire-protective coatings and coverings. Other cost savings might include the elimination or reduction of a stairwell, resulting in more tenant space, or the creation of open stairs and atria throughout multiple floors, resulting in more light penetration and fewer materials.

In many cases, performance-based design is used in combination with the more widely accepted codes to address a few unique features of a specific design or to make the required fire protection more cost-effective. Prescriptive codes that are developed to address broad classes of buildings don't quite fit complex and unusual buildings. Fire-engineering analysis addresses particular needs for special buildings. For example, most codes require sprinklers at ceiling level in an atrium, which is practical when ceilings are low enough for rapid sprinkler activation by fire. But if the ceiling is too high, the temperature may not rise enough to activate the sprinklers. The fire engineer would have to develop a fire-safety alternative for the space.

Internationally, the performance-based design movement is gaining momentum, partly because technology has advanced to a point where the performance of many building systems can be measured, calculated, predicted, and evaluated with analytical tools and methods. This improvement affords architects and engineers more opportunities to use innovative materials and methods to realize their design objectives.





Following Philadelphia fire codes would have required a different design for Viñoly's Regional Performing Arts Center (above and right).

Perhaps more important, studies show that not only can a generic, prescriptive code restrict design flexibility, but it can also incur unnecessary costs and redundancies. Today many countries, including England, New Zealand, and Australia, have adopted performance-based building codes and design guides.

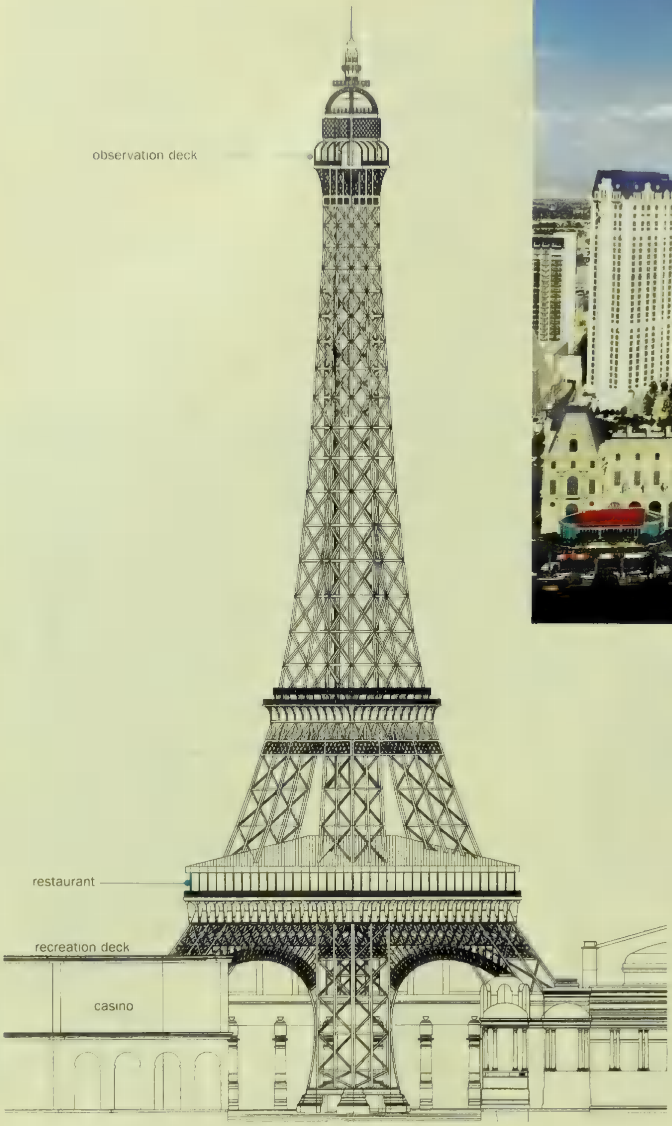
In the U.S., this performance-based approach to fire engineering, as well as similar changes to other aspects of the code, including seismic and mechanical systems design, began around 1991. Code revisions address overlapping provisions, redundancies, and undue restrictions caused by the disproportionately high number of building-code items related to fire and life safety. Performance-based codes are being or have been developed by such organizations as the International Code Council, the National Fire Protection Association, the Structural Engineers Association of California, and the Society of Fire Protection Engineers (SFPE).

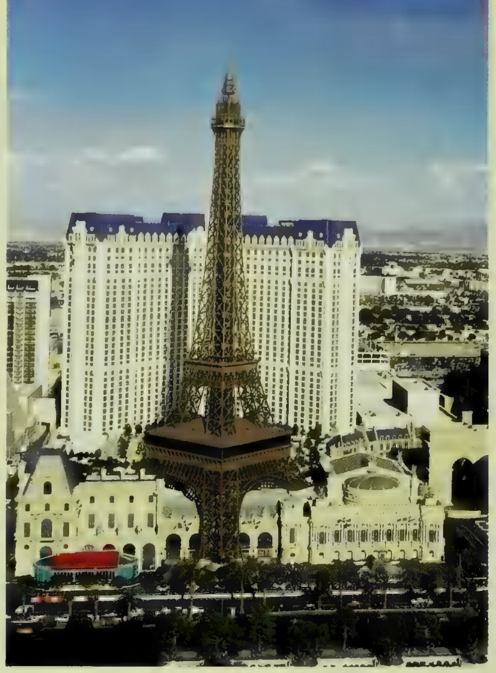
Proving it

Despite the benefits of performance-based fire protection, the method is still not widely accepted. Instead, an alternate-methods-and-materials clause is commonly used. This clause is intended to allow architects or engineers to use any design method or material to meet code requirements, provided they can demonstrate that the method or material is equivalent to the prescriptive provisions. Although this seems reasonable, actual equivalency is not easy to demonstrate, especially if there is disagreement regarding what criteria should be used to demonstrate compliance. Is a material with a one-hour fire-resistance rating equivalent to another material that also has a one-hour rating? Is a material with no rating equivalent to a material with a one-hour rating if there is a sprinkler system?

Unfortunately, such differences in interpretation are common because there is little guidance for determining equivalency beyond the single-paragraph alternate-methods-and-materials clause in the standard code. Addressing such disagreements introduces delays in the design, construction, and approval processes. Because such delays are costly, architects and engineers usually prefer simply to fall back on the prescriptive requirements, even if it means they can't follow the design path they prefer.

To minimize disagreements and facilitate the development and acceptance of performance-based design, the SFPE prepared its *Engineering Guide to Performance-Based Fire Protection Analysis and*





CASE STUDY

Project: *Eiffel Tower II, Las Vegas*
Architect: *Leidenfrost/Horowitz & Associates*
Fire-protection engineer: *Schirmer Engineering Corp.*

A 54-story welded-steel replica of the Eiffel Tower, its legs dipping into an adjacent casino, is just the kind of structure one would expect in Las Vegas. The tower, part of the Paris Casino Resort, is innovative in many ways, including its performance-based approach to fire engineering.

The goals of the stakeholders were simple: "We wanted the building to stand up, the people to get out, and the costs to be reasonable," says Vince Petito, AIA, production manager for the project, with Leidenfrost/Horowitz & Associates in Glendale, Calif.

Standard prescriptive codes would have required a three-hour protected steel structure. Aside from straddling the casino roof, this Eiffel Towel supports a restaurant and observation deck serviced by four elevators and two stairs. Enclosing the steel would have defeated the whole aesthetic idea of the project, not to mention the prohibitive cost of fireproofing the entire tower.

The architects relied on Schirmer Engineering, who worked closely with the structural engineers to develop an analysis that supported a performance-based approach. Most of the analysis was completed within about three months. The engineers also worked with the local building and fire departments and held weekly meetings to keep everyone informed.

"We knew the final result we wanted," Petito says. "But we didn't want to follow every line of the analysis. Most of this stuff flies over the heads of the architects; it is very technical. And it all had to be presented in a form that building officials would understand."

Design of Buildings. Available since March, the guide represents a consensus by the fire-protection engineering community for the best current practice in performance-based design—a particularly helpful tool when designing buildings that depart from conventional codes. Although it is not a standard, the guide is considered a code of practice among fire engineers, and it will be referenced as such in future building codes.

To help in the development of performance-based designs, the guide outlines an eight-step process by which fire-protection engineers evaluate and make recommendations for new construction or for renovation. In addition, the guide provides references to data sources, analysis, and design tools needed for performance-based design, such as engineering handbooks, textbooks, research reports, and journal articles.

The design process

To get a project started right, it is imperative to identify and agree on stakeholder goals and objectives. Stakeholders include all those with an interest in the successful completion and operation of a building, including the owner, developer, investors, key tenants, design team, and code and insurance officials. It is not always simple to reach a consensus, as each stakeholder may have a different set of goals. The architect might want a unique feature—a glass atrium or an open stairway—while the building department favors strict code compliance. The owner or developer, meanwhile, probably wants the maximum flexibility at the lowest cost.

Consider a hypothetical high-rise office building in the early stages of planning and design: The architect envisions an atrium that extends from the ground level to the top floor, opens to each floor, and integrates unprotected structural-steel members and glass. Local codes, however, prohibit an inhabited level more than three floors above the base of an atrium to be open to that atrium; the code also bans unprotected structural steel. The building owner likes the architect's proposed design but has a tight schedule and does not want delays during the approval process.

These conflicting objectives must be settled early if the project is to proceed smoothly. A fire-protection engineer who understands the performance-based design process should be engaged at this initial

Meets code.

Meets code.

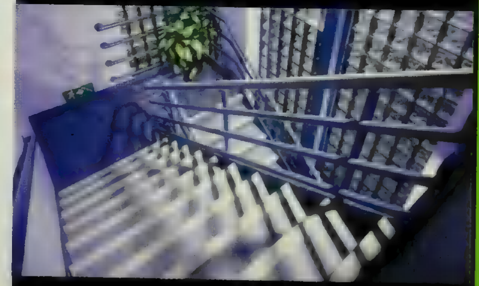
Meets code.

Exceeds code.

SAFE-T-FIRST™
Featuring Johnsonite PermaLight® Technology

In a blackout, meeting existing building codes may not be enough.

Traditional emergency lighting systems require electrical or battery power. These systems require regular maintenance and are subject to human error. Code-required emergency systems may not perform in an emergency situation. Johnsonite, in collaboration with PermaLight A.G. of Germany, developed Safe-T-First™ as a result of increasing demands for enhanced life-safety provisions, particularly during crisis situations where loss of power resulted in blackout. Safe-T-First creates low-location, non-electrical, bright luminous pathways on floors, along the wall base and in stairwells. And as with all of our solutions, we've carefully styled Safe-T-First so it may be easily integrated into the design of your space.



Johnsonite®
Flooring Solutions to Integrate Design & Life-Safety

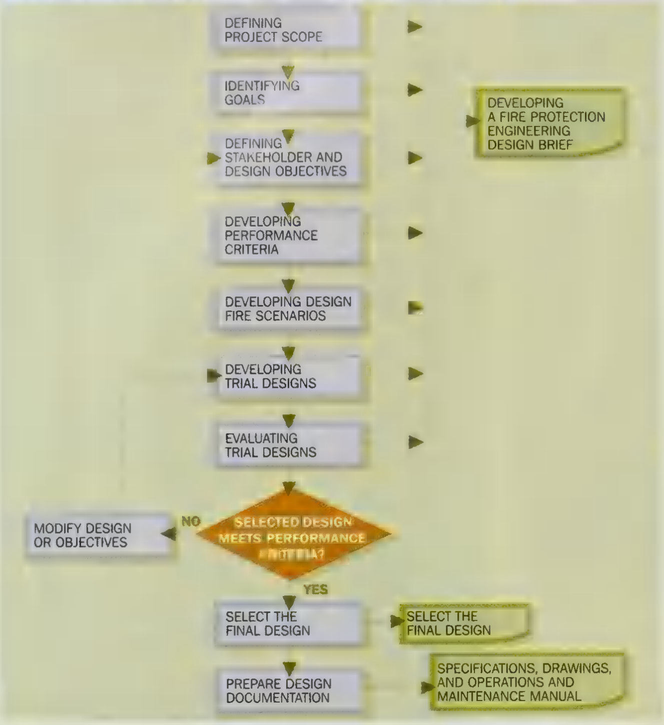
1•800•899•8916
www.safe-t-first.com

Johnsonite® GENESES *Collection*

© 1999 Johnsonite, Div. of Duramax, Inc.
Printed in the USA 95000-691 4/00

CIRCLE 113 ON INQUIRY CARD

STEPS TO PERFORMANCE-BASED DESIGN


DEFINING PROJECT SCOPE
IDENTIFYING GOALS
DEFINING STAKEHOLDER AND DESIGN OBJECTIVES
DEVELOPING PERFORMANCE CRITERIA
DEVELOPING DESIGN FIRE SCENARIOS
DEVELOPING TRIAL DESIGNS
EVALUATING TRIAL DESIGNS
SELECTED DESIGN MEETS PERFORMANCE CRITERIA?
NO
MODIFY DESIGN OR OBJECTIVES
YES
SELECT THE FINAL DESIGN
PREPARE DESIGN DOCUMENTATION
DEVELOPING A FIRE PROTECTION ENGINEERING DESIGN BRIEF
SELECT THE FINAL DESIGN
SPECIFICATIONS, DRAWINGS, AND OPERATIONS AND MAINTENANCE MANUAL

This flowchart illustrates the steps required for a successful performance-based analysis and design procedure for fire protection.

stage. Such professionals often provide suggestions for bridging gaps between varying stakeholder objectives. Brought into the process late, a fire-protection engineer may miss opportunities to influence the ways in which specific code provisions are met or costs are minimized. As a result, design options may be limited.

In the best case, the fire-protection engineer, through discussion with the owner, architect, and code official, gets everyone to agree on the goals. Suggestions might include the following: First, occupants on any floor will be able to reach a place of safety in a reasonable amount of time, without being exposed to unsafe levels of smoke from a fire in the atrium; second, fire-safety measures will be designed to limit the size of any fire in the atrium, so that damage to the unprotected structural members is unlikely.

Once stakeholder objectives are established, they must be translated into design objectives. This process restates stakeholder objectives and quantifies them for use as the basis for design. For the hypothetical office building, design objectives may include setting limits on the flammability of interior finish materials, on the types and quantities of atrium contents (chairs, kiosks, or displays), and on the amount of smoke that may migrate onto any floor open to the atrium.

Performance criteria

The next step is to develop and reach agreement on performance crite-

Fireproofing structural steel

Structural steel is one of the most commonly used products for buildings with a performance-based approach to fire prevention. Coatings used to fireproof structural steel prevent the premature collapse of a structure, limit the amount of damage, and contribute to life safety.

There are three types of coatings: cementitious, sprayed mineral fiber, and intumescent paint. Cementitious fireproofing is made of either gypsum plaster or Portland cement binders, which are mixed with water and sprayed into place, forming a uniform, monolithic finish. Sprayed mineral fiber is blown on through a hose, forming a thick, furry-looking coating. Both are intended to be hidden behind interior finishes, such as drywall.

Water- or solvent-based thin-film intumescent paints, typically spray-applied, are virtually invisible. In the intense heat of a blaze, this film softens and expands to form a thick meringue-like layer that insulates the steel for a period of time—generally up to two hours, depending on the rating.

Intumescent coatings allow architects to "express" the steel, offering a more pleasing aesthetic solution to any project in which steel is exposed, such as airports, stadiums, arenas, hotels, shopping malls, and medical facilities. Rigorous testing is an important criteria for all three materials, and architects should check to see what agency has approved the material. Canadian and American testing requirements vary. *Rita F. Catinella*

Several coating options

Albi Clad Thin Film is spray-applied, water-based, and classified by UL with fire-endurance ratings up to 3.5 hours on various structural-steel members. Albi Clad was specified at the Ontario Airport (above, right). Albi Manufacturing, East Berlin, Conn. 860/828-0571. www.albi.com

Fire-Sorb is a subliming (passes directly from solid to vapor and then condenses back to solid again), single-component, fire-resistive, solvent-based coating that is spray-applied directly to primed steel surfaces. Epoxy-based *Thermo-Lag* is exterior rated. Both are specifically tested for the protection of structural steel used in commercial, institutional, and industrial facilities. Nu-Chem Inc., St. Louis. 636/349-1515. www.Nu-ChemUSA.com

Nullifire offers a choice of three intumescent products and a full spectrum of finish colors for all types of steel sections: tubes, columns, I-beams, and pipes. All are fully tested and UL listed. Fire ratings of up to two hours are possible on many types of interior and exterior steelwork. The company's cementitious line, *Pyrolite*, can be used in a variety of commercial applications. The Carboline Company, St. Louis. 800/848-4645. www.carboline.com

Monokote MK-6/HY and *MK-6s'* gypsum-based, cementitious, spray-applied fireproofing products are

designed for fast application to steel and concrete. UL-listed *Monokote MK-6/HY Extended Set* is a single-component, mill-mixed cementitious fireproofing plaster. W.R. Grace & Co., Cambridge, Mass. 800/778-2880. www.graceconstruction.com

Blaze-Shield's spray-applied, fire-resistive materials are fiber-reinforced, cement-based products available in several densities. *Cafco SprayFilm-WB II* is a water-based, intumescent coating for fire-protecting interior structural steel. Isolatek Intl., Stanhope, N.J. 800/631-9600. www.cafco.com

Every Fire Door Should Look This Good.

The RITE Door™

Complete Door Systems

The Rite Door offers:

- Grade 1 performance and construction
- Low profile design where clear opening must be maximized
- Positive Pressure fire ratings up to 3 hours
- Factory assembled hardware
- Wide range of custom finishes and options

The Rite Door is the complete solution for fire rated doorways, blending beauty and innovative design. The integrated door assembly combines a fire rated door and low profile exit device into a single unit.

ADAMS RITE
MANUFACTURING CO.

260 Santa Fe Street, Pomona, CA 91767 • 800-872-3267 • Fax: 800-232-7329 • www.adamsrite.com

CIRCLE 114 ON INQUIRY CARD

ria—numerical values used to judge whether a proposed design complies with the design objectives. Fire-protection engineers typically select the performance criteria, as this requires expertise in the impact of fire on people and materials. For example, in the hypothetical office building, one goal is that occupants on any floor will not be exposed to unsafe levels of smoke from a fire in the atrium for longer than it takes them to reach a place of safety. Consequently, one design objective would be to limit the amount of smoke that can migrate onto any floor open to the atria. To test any proposed design on its ability to reach this goal, there must be some criteria for quantifying an unsafe level of smoke: the performance criteria.

Suitable performance criteria might cite a maximum smoke obscuration level (relating to the distance one can see through smoke) and maximum allowable smoke production over a given period of time (relating to how fast the atrium might fill with smoke).

The selection of performance criteria can be very difficult because all pertinent safety aspects of a project must be considered, including the age and physical condition of the people who might be exposed to a fire. It must be possible to characterize who or what may be exposed to the fire, what the acceptable levels of damage would be, and how these factors could change over time.

Meeting the criteria

Once the performance criteria are established, the next steps in the SFPE guide are developing and evaluating design alternatives to meet these criteria. This stage begins with the identification of fire scenarios—descriptions of all the possible fires that could occur in the building—and design-fire scenarios that the building design must be able to withstand.

Design-fire scenarios might range from the remote likelihood of a meteorite crashing into the side of a building to the more probable instance of a short circuit in an electrical distribution system, resulting in overheating. The latter is one of the leading sources of fire in office buildings. Other design-fire scenarios might include burning Christmas trees, newspaper kiosks, or furniture.

To identify fire scenarios and to filter them into a set of design-fire scenarios requires the use of hazard-and-risk analysis data, tools, and methods. The work is performed by a fire-protection engineer using fault trees and event trees, risk modeling based on fire loss and system reliability data, and fire modeling through computer simulations. In essence, this identification requires characterizing who is at risk (the occupants on each floor of the building), what they are at risk from (smoke and heat), and how that risk is posed (smoke migration onto an office floor from the atrium). The comprehensiveness of the analyses depends on the project, the potential for loss, and the stakeholders' requirements.

DESIGN-FIRE SCENARIOS MIGHT RANGE FROM A METEORITE CRASHING INTO A BUILDING TO A SHORT CIRCUIT.

Once the analyses are complete, a set of design options can be developed by the fire-protection engineer. Trial designs, called for in the SFPE guide, address six primary factors: fire initiation and development; spread, control, and management of smoke; fire detection; fire suppression; occupant behavior and egress; and passive fire protection.

Fire initiation and development focuses on preventing fire ignitions and minimizing fire growth—accomplished by using materials that resist ignition or do not readily burn. Managing and controlling the spread of smoke can be accomplished using passive means (doors in

FIREPROOFING
WORTH THE LOOK!

A/D FIREFILM® II

Decorative Thin-Film
Fire Resistive Coating
for Structural Steel

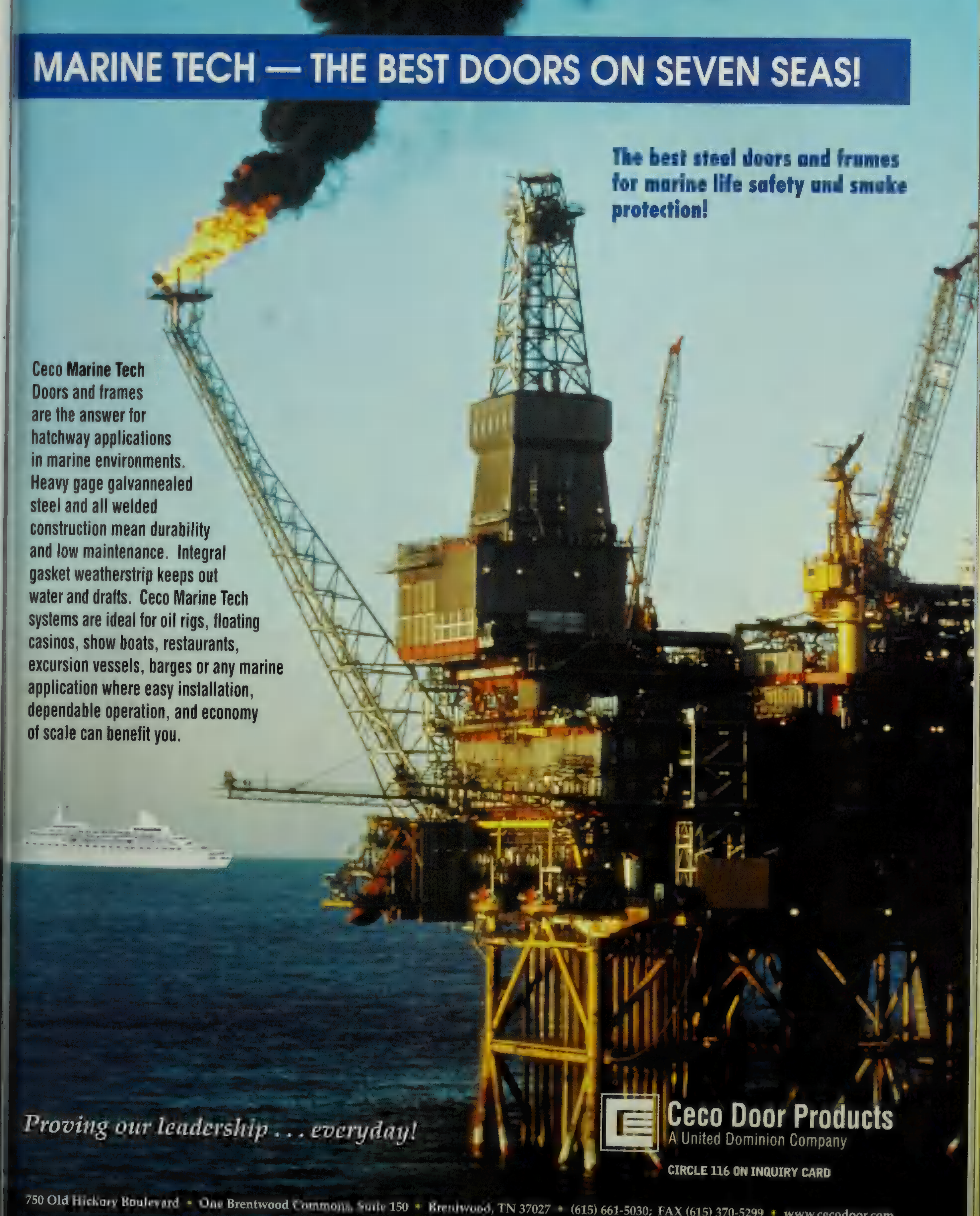
A/D FIREFILM® II combines ratings up to
3 hours with the appearance of exposed steel.

A/D FIRE PROTECTION SYSTEMS

Call 1-800-263-4087

Photo: Sacramento International Airport, Terminal A
Architect: Dreyfuss & Blackford Architects
Photo: Cathy Kelly Architectural Photography
A/D FIREFILM® II on structural steel.

CIRCLE 115 ON INQUIRY CARD



MARINE TECH — THE BEST DOORS ON SEVEN SEAS!

The best steel doors and frames for marine life safety and smoke protection!

Ceco **Marine Tech** Doors and frames are the answer for hatchway applications in marine environments. Heavy gage galvannealed steel and all welded construction mean durability and low maintenance. Integral gasket weatherstrip keeps out water and drafts. Ceco Marine Tech systems are ideal for oil rigs, floating casinos, show boats, restaurants, excursion vessels, barges or any marine application where easy installation, dependable operation, and economy of scale can benefit you.

Proving our leadership . . . everyday!

Ceco Door Products
A United Dominion Company

CIRCLE 116 ON INQUIRY CARD

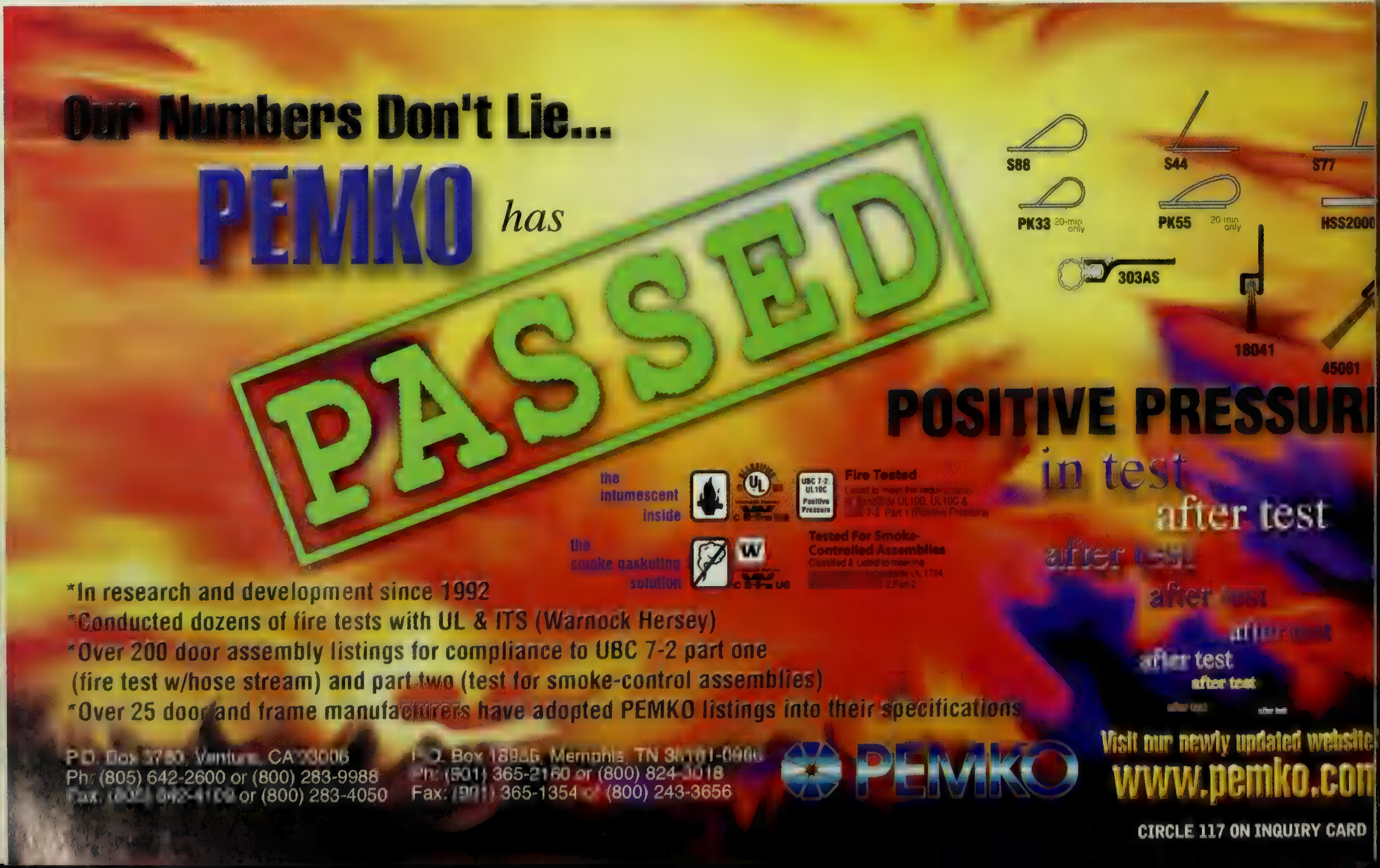
750 Old Hickory Boulevard • One Brentwood Commons, Suite 150 • Brentwood, TN 37027 • (615) 661-5030; FAX (615) 370-5299 • www.cecodoor.com

Face to face with building and fire officials

Fire-engineering consultants work with architects not only to develop performance-based design, but also to help local building and fire departments understand the design intent and project goals. This intermediary role is valuable, especially when the officials or architects are not accustomed to the performance-based approach. To make the approval process go smoothly, architects and engineers should keep in mind the following points:

- It is critical for the approval authorities to take an active role in the design process as early as possible—during the concept stage, if feasible. To some degree, these authorities decide the project's fate. But they may also provide valuable input. When their concerns are addressed early, last-minute changes are less likely to occur, and the original design aims remain intact.
- To help the officials understand the performance-based approach, architects and engineers should discuss goals, performance criteria, analysis methods, and the engineering and computer models to be used. Do not expect authorities to have the materials referenced in these documents. This puts everyone on the same page and eliminates unnecessary analysis based on assumptions that may be unacceptable to the authorities.
- Communication should continue throughout the entire project. The design team needs to understand what information, documentation, and materials the authorities expect from them. They should also be clear about how their project differs from prescriptive code, as well as how it conforms and how those requirements will be met.
- Architects and engineers should cooperate with the authorities and follow their guidelines and procedures. Understand where they are coming from and work with them, not against them, when developing your ideas and proposed approach. Incorporate their concerns and comments in the fire strategy.
- All members of the design team need to be well versed in their disciplines. Do not rely on the authorities to teach project team members the code or to tell the architects what to design or how to design it. It's best if the fire engineers provide up-front documentation on their background and professional qualifications. This information gives the building and fire officials confidence that the engineers are competent to undertake the analysis. Be respectful of the authorities' time and ensure all details have been thought through to produce a comprehensive and integrated strategy.
- A design team's fire-related efforts must be coordinated, just as fire-related systems must function together. All of the disciplines need to work together—plumbing (sprinklers), mechanical (smoke management), electrical (fire detection and alarm)—to ensure this coordination and conform to manufacturer's installation instructions.
- It is important to provide a detailed, well-researched analysis showing how the performance-based design is at least equivalent to what code requires. Don't get carried away with technical terms! Clearly indicate assumptions and limitations in the analysis and design. Summarize the pertinent aspects of the design in a one- or two-page summary.
- Architects should assure the authorities that the design team will be involved and will oversee the project. Don't depend on those who were not involved in the performance-based design to finish, interpret, inspect, or commission the systems. Similarly, make sure that construction documents are complete and that the materials, methods, and components are as specified. Those trying to value-engineer the project may not appreciate why particular decisions were made.

Chris Marrion, fire engineer and head of Arup Fire New York, part of Ove Arup & Partners


Our Numbers Don't Lie...
PEMKO has PASSED

POSITIVE PRESSURE in test
after test
the intumescent inside
UBC 7-2 UL 10C Positive Pressure
the smoke gasketing solution
W
Fire Tested
Listed to meet the requirements of Standards UL 10B, UL 10C & UBC 7-2 Part 1 (Positive Pressure)
Tested For Smoke-Controlled Assemblies
Classified & Listed to meet the requirements of standards UL 1784, UBC 7-2 Part 2
*In research and development since 1992
*Conducted dozens of fire tests with UL & ITS (Warnock Hersey)
*Over 200 door assembly listings for compliance to UBC 7-2 part one (fire test w/hose stream) and part two (test for smoke-control assemblies)
*Over 25 door and frame manufacturers have adopted PEMKO listings into their specifications

P.O. Box 3780, Ventura, CA 93006
Ph: (805) 642-2600 or (800) 283-9988
Fax: (805) 642-4109 or (800) 283-4050

P.O. Box 18846, Memphis, TN 38181-0866
Ph: (901) 365-2160 or (800) 824-3018
Fax: (901) 365-1354 or (800) 243-3656

PEMKO
Visit our newly updated website!
www.pemko.com
CIRCLE 117 ON INQUIRY CARD

Timely Offers A New Edge Of Opportunity.

Steel Door Frames That Match Clear Anodized Aluminum.

Timely TA-28 Aluminum Casing
A full width aluminum casing
without a reveal in prefinished
ALUMATONE™ *or clear anodized.*

Timely TA-23 Aluminum Casing
Clean, crisp lines of aluminum
with a 1/4" reveal in prefinished
ALUMATONE™ *or clear anodized.*

Alumatone™, the latest addition to Timely's extensive selection of finishes, provides the look of clear anodized aluminum in a steel door frame. Now, you can coordinate clear anodized aluminum exterior windows with color matching prefinished steel door frames from Timely. Timely's prefinished steel frames will meet your code requirements including full **90-minute fire ratings.**

New Alumatone™, like all Timely finishes, is a baked-on polyester base paint, applied in coil form to assure superior durability, performance and appearance. Five casing design options are available including 2 aluminum profiles offering the crisp lines of aluminum.

Timely is recognized as the originator of the prefinished drywall frame concept. For over 30 years, we've provided steel frames that feature full perimeter anchoring for extra strength and a snap-lock casing system plus matching borrowed lites and sidelites. Contact us now to learn more about the new Alumatone™ finish and the Timely prefinished steel door frame system.

TIMELY
PREFINISHED STEEL DOOR FRAMES
A DIVISION OF S.D.S. INDUSTRIES, INC.
CIRCLE 118 ON INQUIRY CARD
10241 NORRIS AVE. • PACOIMA, CALIFORNIA 91331-2292
(818) 896-3094 • (800) 247-6242 • FAX (818) 899-2677
9782 INTEROCEAN DRIVE, CINCINNATI, OHIO 45246
(513) 682-9600 • (800) 346-4395 • FAX (513) 682-4102

SEE US AT AIA EXPO 2000, BOOTH 1817 AND AT CSI 2000, BOOTH 2828

© 2000 Timely

corridors), natural ventilation (openings at roof level), or mechanical means (smoke exhaust systems). Fire detection and suppression devices include smoke and heat detectors and automatic sprinklers. Designing for occupant behavior and egress requires an understanding of how people react in fires—what they do when an alarm sounds and how quickly they move. Passive fire protection relates to the flame resistance of materials and systems.

Based on these factors, the resulting trial designs may include recommendations for structural or finish materials; installation of smoke detectors or sprinklers; specific construction features, such as fire walls or door closers; operational or management controls, including regular inspections, storage restrictions, and periodic testing; or any combination of these precautions.

DESIGNING FOR OCCUPANT BEHAVIOR AND EGRESS REQUIRES AN UNDERSTANDING OF HOW PEOPLE REACT IN FIRES.

Once the trial designs have been developed, they are evaluated against the design-fire scenarios. Successful trial designs control the fire or its effects in such a way that the performance criteria are not exceeded when evaluated against the design-fire scenarios. The results of each evaluation will indicate whether the trial design meets the performance criteria, and therefore the design objectives. This evaluation process is often accomplished through computer modeling, which can be used to predict fire growth, smoke spread, detector and sprinkler activation, and occupant egress time for different design-fire scenarios.

In the case of the hypothetical office building, the trial designs might include the following: interior finish materials in the atrium that resist ignition and flame spread; a smoke detection and management system that will alert occupants, notify the fire department, and begin exhausting smoke as soon as a fire is detected; automatic sprinklers everywhere in the building except the atrium; and automatic door closers to provide separation between the atrium and the means of egress on each floor.

Tying it all together

With a suitable set of trial proposals, the design team must select a final scheme. The choice entails financial considerations, timeliness and ease of installation, system and material availability, and system maintenance. Cost-benefit, risk-benefit, and reliability analyses are also useful for selecting final designs.

The final component of a performance-based design is documentation. Done properly throughout the process, documentation helps ensure that all stakeholders understand what is necessary for the implementation, maintenance, and success of the fire-protection strategy.

Changing the code

As more innovative methods and materials for design and construction become available, architects will want to apply them. At the same time, fire and life safety will become increasingly important, as the strong emphasis on these in building codes already proves. A performance-based approach to fire-safety analysis and design will help architects achieve both design flexibility and safe buildings.

For now, the SFPE guide is a reference. But with the increasing trend toward performance-based codes in all areas—from structural provisions to HVAC design—such references will be integrated into the code itself as essential design tools. ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- ◆ Read the article "Analyzing Fire Risks Building by Building" using the learning objectives provided.
- ◆ Complete the questions below, then check your answers (page 410).
- ◆ Fill out and submit the AIA/CES education reporting form (page 408) or file the form on ARCHITECTURAL RECORD's Web site at www.archrecord.com to receive one AIA Learning Unit.

QUESTIONS

1. What types of buildings are best suited to performance-based design?

2. When does performance-based design cost more and when does it save money?

3. How does the alternate-methods-and-materials clause affect performance-based design?

4. What is involved in identifying fire scenarios?

5. How is a final scheme chosen in performance-based design?

Monarch saves the day with selection, reliability, value and one of the fastest turnarounds in the business.

Monarch hardware has a price that will keep you on budget, and a wide selection of reliable products that can be delivered in as little as two or three days. Plus, our hardware meets or exceeds legal and regulatory requirements. Monarch is part of the IR Security & Safety Group, giving us the resources to meet the demands of today's architects. So turn to Monarch when you need hardware right. Now.

MONARCH
Exit Devices & Door Hardware

For more details about the complete line of Monarch exit devices and door hardware, as well as other cost-effective solutions from our IR partners Falcon, Dor-O-Matic and IVES, call us at 800-826-5792 or visit www.monarchhardware.com.

IR Security & Safety

CIRCLE 119 ON INQUIRY CARD

Aristech Acrylics
presents

Using Solid Surfacing as Exterior Wall Cladding

Architect James H. Warner, manager of design and programming for Cincinnati-based CDS Associates, Inc., watched with interest as the marketing rep routed V-grooves into the back of a sheet of acrylic solid-surface cladding material, then folded the panel into a box with no visible seams.

AIA/ARCHITECTURAL RECORD
CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read **USING SOLID SURFACING AS EXTERIOR WALL CLADDING.** To earn one AIA/CES Learning Units including one hour of health safety welfare credit, answer the questions on page 310 and follow the reporting instructions on page 408. Or use the Continuing Education self-report form on RECORD'S Web site—www.architecturalrecord.com.

LEARNING OBJECTIVES:

- Explain the increased popularity of acrylic materials in the last decade.
- Describe the benefits of solid surface acrylic materials for exterior use.
- List installations where acrylic materials perform better than natural stone.

"The edges were so sharp you risked cutting yourself on them," Warner recalls. "I immediately saw a number of interesting possibilities: you could do fluted columns with the material. You could create faceted, curvilinear faces. You could easily do folded sills with multiple faces."

Thermoforming, the process in which plastics are heated and shaped, created additional design possibilities, says Warner: tight-radius curves for column caps, intricate bullnoses, seamless beam covers.

Solid surface materials, derivatives of materials once used only indoors, have gone outside as exterior skin.

CDS and Miller-Valentine Construction Inc., Dayton, Ohio, in 1997, constructed a 39,000 sq. ft. office-laboratory facility for Aristech Acrylics that has become a showcase for the versatility of solid-surface cladding. The building is the world's first commercial example of solid surface material as principal wall cladding.

The new material has many virtues: it combines UV-stable pigment technology developed for the sign industry with the durability and renewability of countertop work surfaces, making it highly ultra-violet and weather resistant. It is lightweight, easy to install, easily maintained, and as the Aristech building reveals, uncommonly versatile.

ACRYLIC: NO LONGER JUST A SHOWER SURFACE

Pure acrylic has been commonplace since the early 1970s, primarily as a material for outdoor signs and, later, hot tub, bath and shower surfaces. Then, material manufacturers discovered that the addition of a mineral filler, aluminum tri-hydrate (ATH), gave similar to stone but with the workability of wood. Within the last decade, the popularity of the material has soared. The result is a broad family of solid surface materials—Wilsonart®, Avonite® and Corian® are among them—that have taken the place of once expensive and often difficult-to-install granite and marble in kitchens and bathrooms.

"I like the product for a number of reasons," says Warner. "It gives you the look of stone at considerably lower cost. Stone doesn't do very well where you plan to use it in any curvilinear shape. In applications like that, this material solves some real problems." The appearance of solid-surface cladding materials is similar enough to natural materials that they can be incorporated into stone or masonry facades. Solid surface walls permit detailing intricacy impossible, or economically unreasonable, with stone.

Solid-surface cladding's most obvious niche is as an alternative to metal composite in curtain walls. But it is also viewed as an alternative to precast panels, both for its ease of installation and its timeliness. Precast, in today's market, can take 6-12 months to get to the jobsite; solid surface cladding typically can be delivered within 30 to 90 days.

SOLID SURFACE MATERIALS ARE WEATHER, STAIN RESISTANT

Not only are the solid-surface materials versatile, they are easily renewed. Scratches, graffiti and other types of vandalism are easily erased with a light sanding which restores the surface of the material. This is possible because pigments are not surface applied, but permeate throughout the entire material. Natural stone most frequently blackens with exposure to weather and can be etched by acid rain. Because the solid-surface materials are non-porous (and non-absorbent), weather does not affect their appearance. Therefore, it resists staining and is impervious to salt spray. Pressure washing restores the material to its original appearance.

The Aristech Acrylics headquarters building in Florence, Kentucky, illustrates another possible advantage of the new exterior claddings: it gives the architect new freedom in carrying a common design theme from outside to inside the building. At the Aristech building, both exterior and interior designs feature solid-surface materials. Countertops, cabinet faces and other intricate interior design features are of the same material as exterior features.

Exterior solid-surface cladding is manufactured in flat sheets, in lengths limited only by practicality. The 1/4 in. thick material weighs about 2.2 pounds per sq. ft., about half the weight of 1-in. insulated glass. A 4 X 8-ft. sheet of acrylic cladding weighs less than 75 pounds and is easily handled by two workers. It is cut and shaped with everyday carbide-tipped woodworking tools. Sheets are easily glued, mitered and routed to create additional thickness for use, say, as column caps.

KEY FEATURES OF SOLID SURFACE CLADDING

- Weather and UV Resistant
- Easily thermoformed
- Easy to maintain and renew
- Available in a variety of colors, textures and sizes
- Has all the familiar benefits of acrylic solid surface countertops

FABRICATION / INSTALLATION

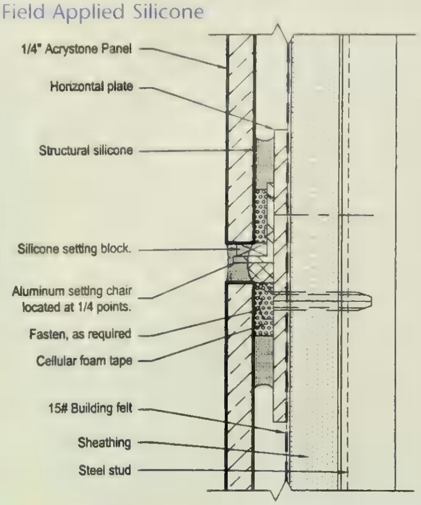
For small applications, installation of solid-surface cladding can be as easy as applying two-sided foam glazing tape and structural silicone to the backside of panels and attaching them to an existing surface. This is similar to four-sided butt glazing of glass.

For large projects, pre-glazing in the shop saves significant time and permit systems to be built even in the worst weather. Pre-glazed panels can then be hung with surprising efficiency from easily installed hanging tracks screwed to exterior walls.

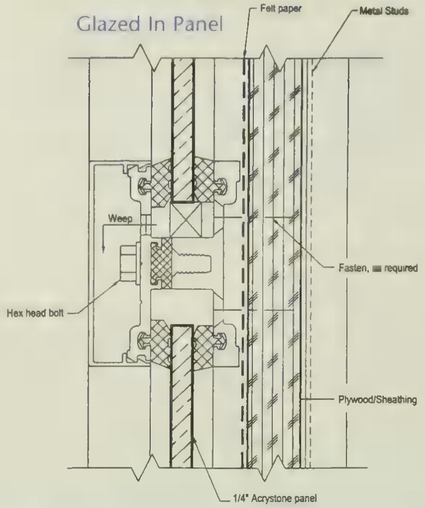
Aristech's headquarters building was clad using aluminum extrusions, to which panels were connected with neoprene glazing tape and structural silicone adhesive. The panels were mounted by clipping them to custom aluminum laser leveled shelf angles fastened to a substrate of gypsum sheathing over metal studs. "The result," says CDS Associate's Warner, "is a sleek, high-tech skin with no exposed fasteners."

TYPICAL INSTALLATIONS

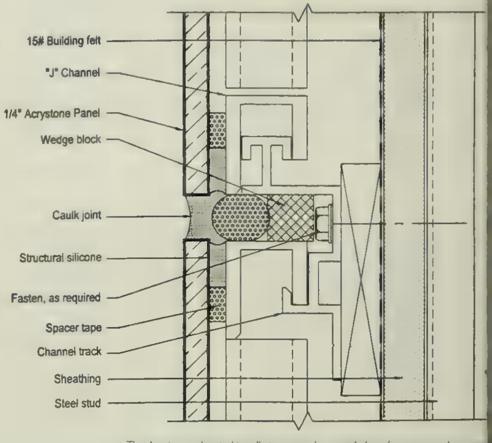
Field Applied Silicone



Glazed In Panel



Pre-Glazed System

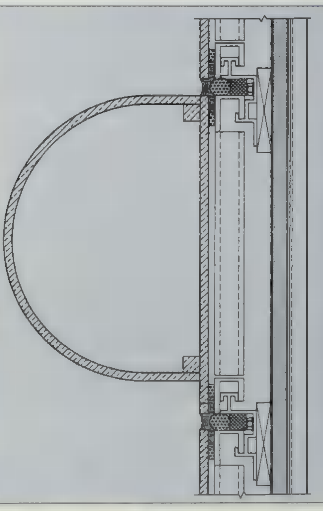


The drawings and typical installation examples provided are for conceptual purpose

In terms of labor cost, installation of solid surface cladding is very similar to the cost of installing aluminum composite panels, and any glass installer can install solid-surface panels, says David Toerner, engineering manager for Mason, Ohio-based fabricator and installer Harmon, Inc. Solid-surface cladding now installs for about $25-$28 per sq. ft., and the price will fall, predicts Warner, as assembly methods grow more mechanized. It is now in the range of aluminum composites, about half the cost of natural stone, but roughly three times the cost of most External Insulation and Finish Systems.

"I don't see solid surface cladding as a total replacement for either aluminum panels or stone, says Toerner, "but I think that architecturally there are a lot of statements you can make with this product that you can't make with anything else. "Column covers and bullnoses can become accents, and especially in high-traffic areas, like schools, where maintenance is an issue, there are a lot of advantages to solid surface cladding."

Solid surface cladding, although its appearance is very distinct from stone, is envisioned as an alternative where stone is either too tough on the budget or too heavy to be economically installed. "Elevator interiors or buildings in seismic areas where weight is a concern are a couple of examples that come to mind," says Edward D. Storer, senior associate architect and specifier for NBBJ, Seattle. Solid surface exterior cladding was chosen for those reasons on the third floor addition to the existing two story structure for The Chung Hwa City Council Building in Taiwan.



Bullnose & Beam Wrap

Solid surfacing is thermally bent over a mold to take on a graceful curved shape. The bullnose is adhered to the panel with a specifically engineered bonding adhesive.

Storer, like many materials specifiers in the U.S.—who can entertain as many as a half-dozen sales reps for new architectural products every day—is naturally skeptical about new materials. "Solid surface cladding is competing with metal panels, a known quantity," says Storer. "You have to ask 'How well will this material age?' Plastics grow brittle with time, and that has to be a real concern with plastics used outdoors."

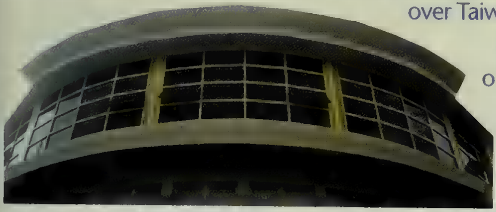
Accelerated, controlled tests by the manufacturer—equivalent to 10 years in the desert sun—concluded that there was no discernible difference between exposed panels and newly manufactured sheets of the same material. (The manufacturer provides a ten year warranty covering color and the integrity of the material.) In fact, as a further test, Aristech removed a panel from its building after a year-and-a-half and replaced it with a newly manufactured sheet and no one could distinguish the new panel from the rest of the building.

With thin-paneled solid surface cladding, owners can avoid the problem of moisture control, a growing concern with EIFS installations that has led, in some cases, to casualty claims and expensive design modifications. "Water intrusion is the primary cause of construction defect claims, and has become a significant problem for the industry," the manager of a Washington State insurer said recently. Acrylics, used to produce high-end jetted bath tubs and outdoor hot tubs, are routinely subjected to constant outdoor exposure as well as harsh pool chemicals, without consequence. Building envelopes can be sealed tight to prevent water infiltration or panels can be used in a rainscreen pressure equalized system.

At Aristech's headquarters building, thermoformed curved shapes demonstrate the flexibility and design possibilities of solid surface cladding. The natural flex of the material makes large-radius curves across the face of the building easy to clad. Smaller radius curves, like the building's two ft. diameter rounded columns, oval beam covers and bullnoses are created by heating and forming the material over simple molds. Corners and bevels were created by mitering and gluing, then sanding or routing. The result is a seamless looking finish.

CASE: CHUNG HWA CITY COUNCIL BUILDING, TAIWAN

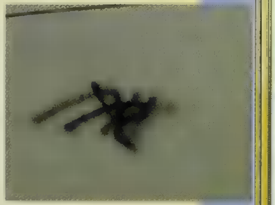
The Chung Hwa City Council Building in Taiwan was an existing two story building that they needed to expand. They were restricted by roads and neighboring buildings. The only choice was to add an additional floor. The original poured concrete structure wasn't designed to handle the weight of concrete walls. Solid surfacing was chosen because of its light weight. This is a seismic area which increased their concerns about adding additional dead load to the building. In fact, last September when the workers were installing solid surface cladding, one of the earthquakes hit Taiwan. Buildings all over Taiwan collapsed but not the one with solid surfacing.



CARE AND MAINTENANCE

Exterior solid-surface panels are cast from an acrylic-based polymer formulated to withstand the rigors of outdoors. In order to maintain the elegant look of the material, washing should be incorporated into an annual building maintenance program.

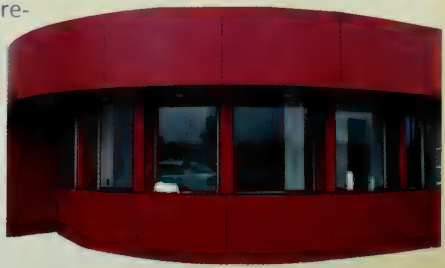
Solid surface exterior cladding can be cleaned with mild detergent and water. A pressure washer of up to 3,000 p.s.i. can be used to remove dirt and dust. Care should be taken not to damage the weatherseal between panels.



Oil or grease stains resistant to detergent can be cleaned with isopropyl alcohol applied to a cloth and rubbed lightly over the stain. Harsh solvents, like acetone or denatured alcohol, however, may damage the panel and should not be used. Solid-surface cladding can be renewed by light sanding with an orbital sander or sandpaper.

CASE: CHILDREN'S INTERACTIVE MUSEUM, SANTIAGO, CHILE

For the Children's Interactive Museum in Santiago, Chile, the architect wanted to use aluminum composite material (ACM) for ticket booths, but he was concerned that when subjected to high pedestrian traffic, the material would show scratches and wear. They chose solid surfacing because its renewable surface will allow scratches to be removed by a light sanding.



ARISTECH ACRYLICS LLC

Aristech invented the cast acrylic process in 1969 and since then has produced more continuous cast acrylic than any other manufacturer in the world. Its investment in R&D has yielded revolutionary products like Quarite, a granite-look acrylic that in five years has captured half the hot tub market. A cousin of Quarite, Acrystone: a UV resistant, granite-like acrylic that has taken solid surfacing to the architectural exterior wall cladding market for the first time. (Aristech last year completed a $75 million plant expansion in Florence, Ky.) Acrystone was introduced at the annual National AIA Conference in 1998. It gives designers freedom to create bold new designs with a material that resists stains, is durable, and uniquely weather-resistant.

LEARNING OBJECTIVES:

- Explain the increased popularity of acrylic materials in the last decade.
- Describe the benefits of solid surface acrylic materials for exterior use.
- List installations where acrylic materials perform better than natural stone.

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below. Then turn the page upside down and check your answers. Fill out the self-report form 408 and submit it or use the Continuing Education self-report form on the RECORD's Web site —www.architecturalrecord.com—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

1. Why have acrylic solid surfaces become increasingly popular in the last decade?

2. What were the primary uses of acrylic materials before it was used for exterior cladding?

3. What are the characteristics of acrylic solid surface that make it a good choice for exterior uses?

4. What are the advantages of acrylic solid surfacing over natural stone?

5. How do the characteristics of acrylic cladding effect the design of buildings?

ANSWERS:

1. The increase in popularity of acrylic solid surfaces came from their changed appearance. They had been available since the 1970's in solid colors. In the late 1980s, different colored chips were incorporated into the sheets to create a textured appearnace similar to granite and other stones. This allowed acrylic solid surfaces to be used in applications where people wanted the look of stone, but offered an easier installation.

2. Previously, acrylic solid surfaces were used extensively for outdoor signs, hot tubs, bath and shower surfaces, commercial restroom lavatories, commercial and residential kitchen and bathroom countertops.

3. Acrylic solid surfaces has ideal characteristics for exterior uses. These include UV-stable pigment technology that was developed for the sign industry, making it highly UV resistant. Accelerated tests exposed acrylic to the equivalent of ten years of desert sun with no discernable sun damage. Acrylic solid surfaces is weather resistant which reduces moisture control problems. It does not become etched with acid rain and is impervious to salt spray. Pressure washing and mild detergent can be used to restore the material to its original appearance. Exterior uses also include the occasional vandalism with paint or scratching. acrylic solid surfaces are non-porus to resist staining and can be sanded to erase graffiti since the pigment goes throughout the material.

4. Acrylic solid surfaces has several distinct advantages over natural stone. It can be made to look like stone while it weighs considerably less, is available in thin large sheets allowing curved surfaces, and can be delivered and shaped in less time. This allows applications where weight is limited as well as being transported and handled easily by workmen. It can be shaped easily with carbide-tipped woodworking tools, thermoformed, glued and routed to add thickness. While stone becomes blackened with exposure to weather, acrylic solid surfaces do not. Acrylic solid surfaces is usually less expensive and involves less labor than natural stone to install.

5. Acrylic cladding gives architects new freedom in exterior detail design. They are not limited by the rigid characteristics of stone and other materials. Acrylic can be thermoformed into curved shapes with tight-radius curves for column caps, intricate bullnoses, etc., or naturally flexed into large-radius curves across a building facade. Acrylic can be grooved and folded into shapes, hung as exterior panels, beveled with a router or sander, or glued into place. Acrylic materials can easily be used vertically or horizontally, indoors or outdoors, allowing architects to carry a design feature throughout a building/project.

ARISTECH
ACRYLICS LLC
7350 EMPIRE DRIVE FLORENCE, KY 41042
(TEL) 800-354-9858 (FAX) 606-283-7378
www.aristechacrylics.com
Circle 120 on inquiry card

Wind2 for Windows

A PROJECT THIS AMAZING DEMANDS A SOFTWARE THIS INCREDIBLE

Bringing sixty creative minds together to design complex projects like Seuss Landing Retail Stores* requires the **ingenuity** and **experience** of AAD. Transforming 1680 monthly time records into knowledge that helps AAD better manage 375 projects a year requires the **power** and **integration** of the award-winning Wind2 Financial Management System. From real time project reporting and budgeting to fully integrated financial accounting, Wind2 provides AAD with the tools it needs to keep them on schedule and profitable in today's demanding design world.

*Seuss Landing Retail Facility
Universal Islands of Adventure, Orlando, FL
Photo: Michael Norton Photography

Wind2

Helping to Make it Possible

Designed for Microsoft® Windows NT® Windows®98

Designed for Microsoft® Windows NT® Windows®95

Microsoft® OFFICE 97 Compatible

Named "Best Packaged Application" in Microsoft's 1998 Visual Fox Pro Excellence Award Competition.

Wind2®

The Number One Provider of Project Accounting Software for the Professional Services Firm

Call 1.800.779.4632 today for a CD demo or visit us at www.wind2.com

CIRCLE 121 ON INQUIRY CARD

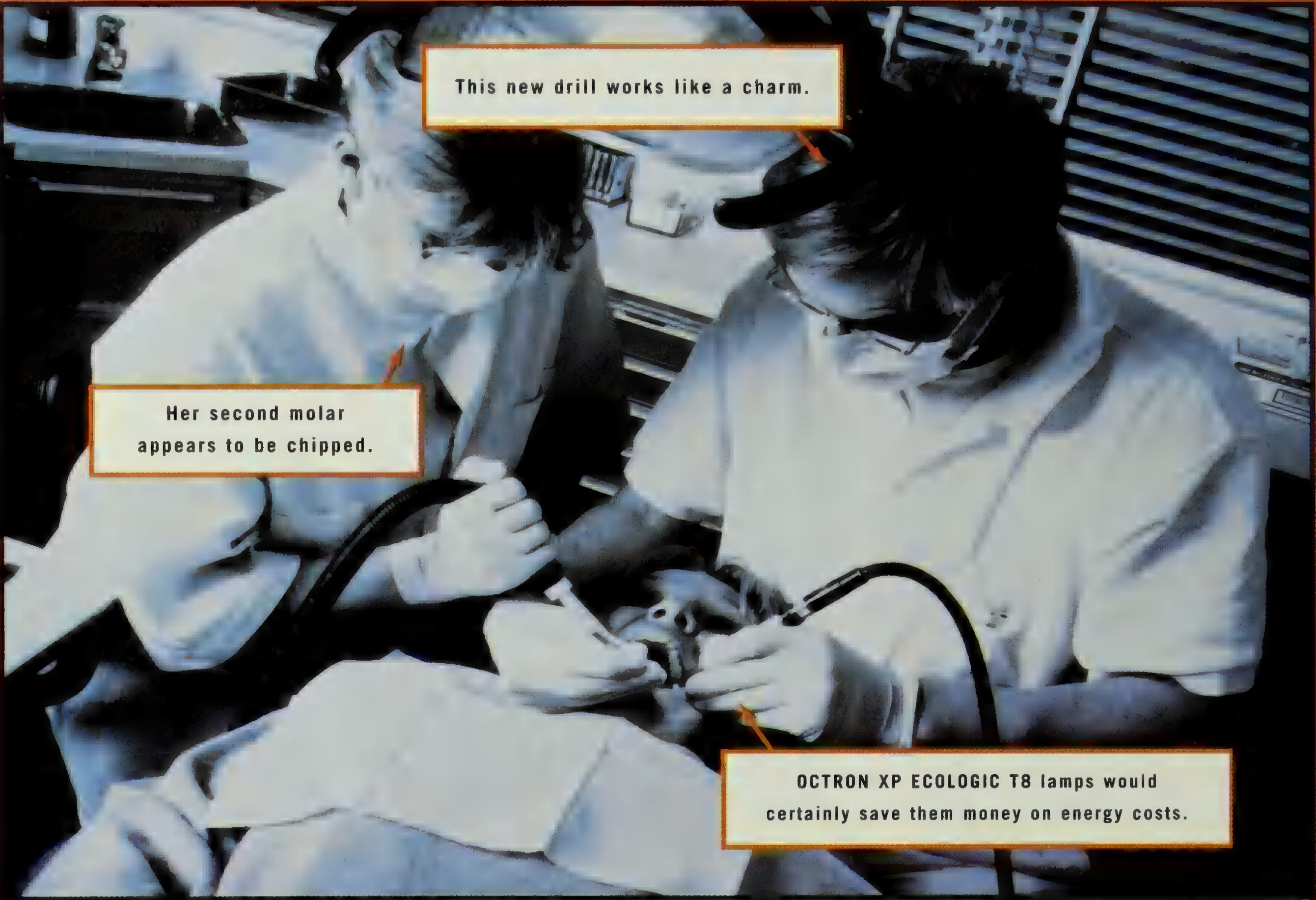
Gullwing luminaires seamlessly and elegantly disappear into architecture and landscape. By night, illumination is precisely controlled, with no high angle brightness or glare into neigboring property. Gullwing blurs the lines between architecture, engineering and performance, and in so doing, advances the proposition that lighting at its best, is all but invisible.

Learn more about Gullwing sconce and area luminaires at www.sitelighting.com/gwar

Gardco Lighting
San Leandro, CA
800.227.0758

Genlyte Thomas Group LLC

Sharp cutoff of lamp
output eliminates trespass
Five highly efficient,
uniform distributions
HID lamps to 1000 watts
18" & 13" discretely
silhouetted forms
Gardco Lighting®
INVISIBILITY



This new drill works like a charm.

Her second molar appears to be chipped.

OCTRON XP ECOLOGIC T8 lamps would certainly save them money on energy costs.

OBSESSIVELY FOCUSED ON LIGHTING.

When lighting is the only thing on your mind, you constantly think of energy efficient products that will help improve your surroundings. That ability to focus has helped us develop breakthrough products like the OCTRON T8, CAPSYLITE PAR, ICETRON, TRU-AIM IR, METALARC PRO-TECH, and PENTRON T5.

For the next millennium, we will continue our focus on R&D. Right now our designers are creating lamp and ballast systems that will be more energy efficient and ecologically sound. Your link to those innovations will be SYLVANIA's commercial engineers. Their expertise will help you specify and install the right SYLVANIA product for the job.

To see how our obsessive nature can enhance your work, call your SYLVANIA Commercial Engineer or sales rep. For more information, dial 1-800-LIGHT-BULB (1-800-544-4828), or visit www.sylvania.com.

SYLVANIA

Our latest obsession, SYLVANIA OCTRON 800XP/ECO T8 lamps. Designed to pass TCLP, they have 20% longer life and 94% better lumen maintenance. You'll be able to use fewer fixtures, extend relamp cycles, and save a dollar per lamp in energy costs.

SYLVANIA is a registered trademark of OSRAM SYLVANIA, Inc.

CIRCLE 80 ON INQUIRY CARD

LIGHTING...

The advent of relatively inexpensive microprocessors capable of complex functions has influenced all aspects of our daily lives. Computer power for the masses is everywhere we look, from laptops to programmable cell phones to the on-board GPS systems installed in automobiles. Lighting controls, too, have become more and more common and complex over the last 10 years. A few cases in point can be seen in this issue. The controls for the Burj Al Arab Hotel/Jumeirah Beach Resort (1), in Dubai were so complicated that lighting designer Jonathan Speirs of Jonathan Speirs & Associates enlisted colleague Paul Gregory of Focus Lighting to design them. The hues of the building's fabric facade constantly shift over the evening hours, with light emanating from programmable luminaires that mix light from sources of different colors. These luminaires are, in turn, controlled by a theatrical dimming system linked to a touch-screen so that the light show can be easily and instantly changed.

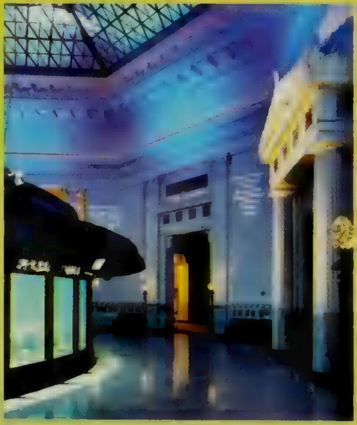
Gregory's own tour de force is in the lobby outside the IMAX theater at the Metreon (2), in San Francisco. To kinetically charge the room, he backlit a wall using primary colors of neon plus white—which can be dimmed and mixed to create virtually any color—and programmed them so the tones of the wall are constantly shifting. Robert Schuler, of Schuler & Shook, used lighting controls to go in an entirely different direction in his renovation of the John G. Shedd Aquarium (3), in Chicago. Here, visitors are taken on a multimedia journey to a Caribbean reef using control-coordinated light and sound. But, the simplest and most elegant solution is architect and lighting designer Iole Alessandrini's lighting for "Winter, Season of Light" (4), an installation in Tacoma last December. The lighting was on a simple timer that at 5 A.M. and 5 P.M. turned the luminaires on. Yet, the warm-up-and-strike of the metal halide lamps gave the light a fade-up effect, changing the hue of the light from dim pink to bright red. Controls don't have to be complicated or expensive to work well. *Charles Linn,* AIA

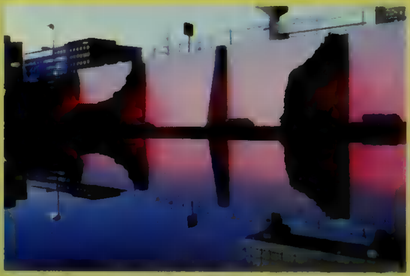
---

317 **Creative uses**
320 **Burj Al Arab Hotel/ Jumeirah Beach Resort**
Jonathan Speirs & Associates; Focus Lighting
323 **Sony Theatre at Metreon**
Focus Lighting
333 **Shedd Aquarium**
Schuler & Shook
337 **Schuylkill River Bridge Lighting**
Grenald Waldron Associates
345 **William and June Warren Hall**
David A. Mintz, Inc.
349 **Trade Show Review: Light + Building Show**
351 **Soft-Start Ballasts Meet Thick-Phosphor Lamps**
355 **Lighting Resources**

1

2


3

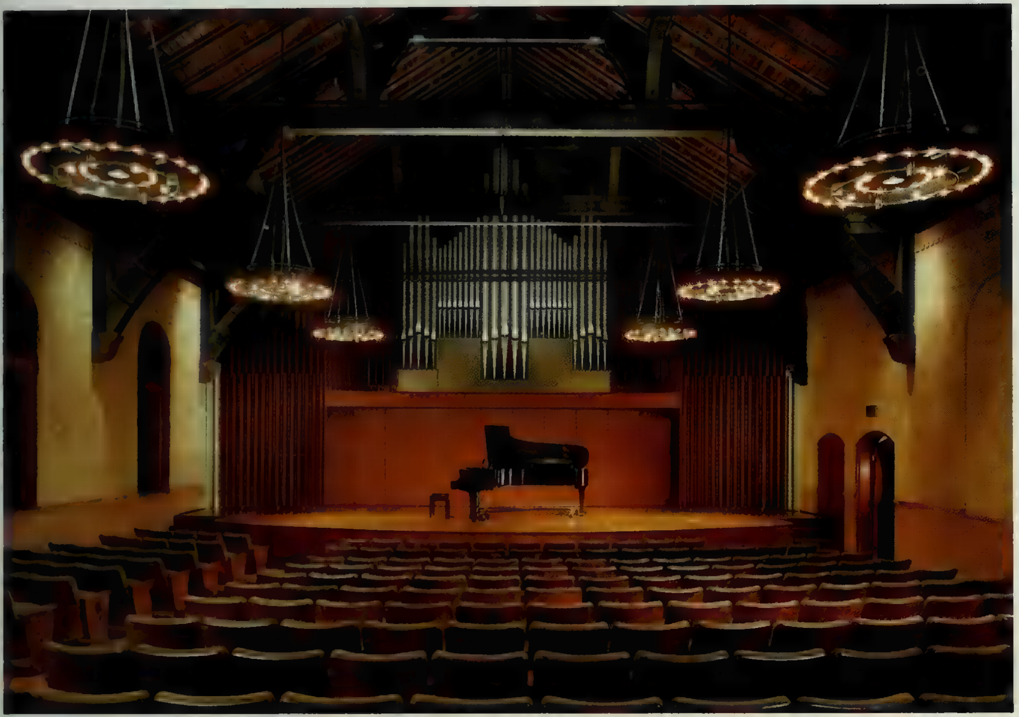

4

Kipp

Design: Alfred Homann

Poulsen Lighting, Inc.
3260 Meridian Parkway
Fort Lauderdale • FL 33331
Tel.: +1 954 349 2525
Fax: +1 954 349 2550
info@louispoulsen.com
www.louispoulsen.com

CIRCLE 124 ON INQUIRY CARD



VERSATILE LIGHTING HELPS ADAPT A CHAPEL TO THE NEEDS OF CANADA'S MUSICAL PRODIGIES

The Royal Conservatory of Music in Toronto, whose alumni include classical pianist Glenn Gould and opera star Teresa Stratas, is Canada's premier training ground for musicians and vocal performers. Toronto's Kuwabara Payne McKenna Blumberg Architects was hired to renew McMaster Hall, an 1880s Victorian building which the school has occupied for 30 years. The first phase of the building's revival is the $2 million restoration of the Ettore Mazzoleni Concert Hall, named in honor of the conservatory's former principal. The venue occupies a former high-ceilinged chapel within a Romanesque Revival wing added in 1901.

"We began by undoing the changes that had been made to the original structure," says KPMBA partner-in-charge Marianne McKenna. Windows that had been replaced by bricks were reopened; paint was removed from the brick walls, and the heavy timber trusses and wood ceiling were cleaned and reinforced. New details complementing the restored shell include a curved mahogany stage front and stage screen, a raked maple floor beneath seating, and millwork of clear mahogany and stained maple, accented with bronze details.

Lighting designer Suzanne Powadiuk, of Suzanne Powadiuk Design, created illumination to accent the room's natural finishes while providing versatile settings for classroom and performance use.

"Three layers of lighting incorporated into eight chandeliers do most of the work," Powadiuk says. Suspended from the timber deck by steel rods, the custom-fabricated pendants of painted steel and stainless detailing feature modern profiles. "We wanted to stay away from period reproduction fixtures," McKenna notes, "and introduce sculptural elements with simpler lines that play off the proportions and new interventions in the space."

A priority was to showcase the restored timber ceiling and trusses. Within each chandelier are four PAR30 uplights that throw illumination above while remaining discreetly hidden. Five downlights within each chandelier—four 50-watt PAR20s set in a ring and one PAR30 at the center point—provide ambient levels of light for reading. The final layer of light from the chandeliers comprises two rings of S-type incandescent lamps, whose filaments are visible—creating a twinkling effect as a decorative accent. "With the chandeliers we were able to retain a salon feeling in keeping with the intimate Romanesque space," the lighting designer says.

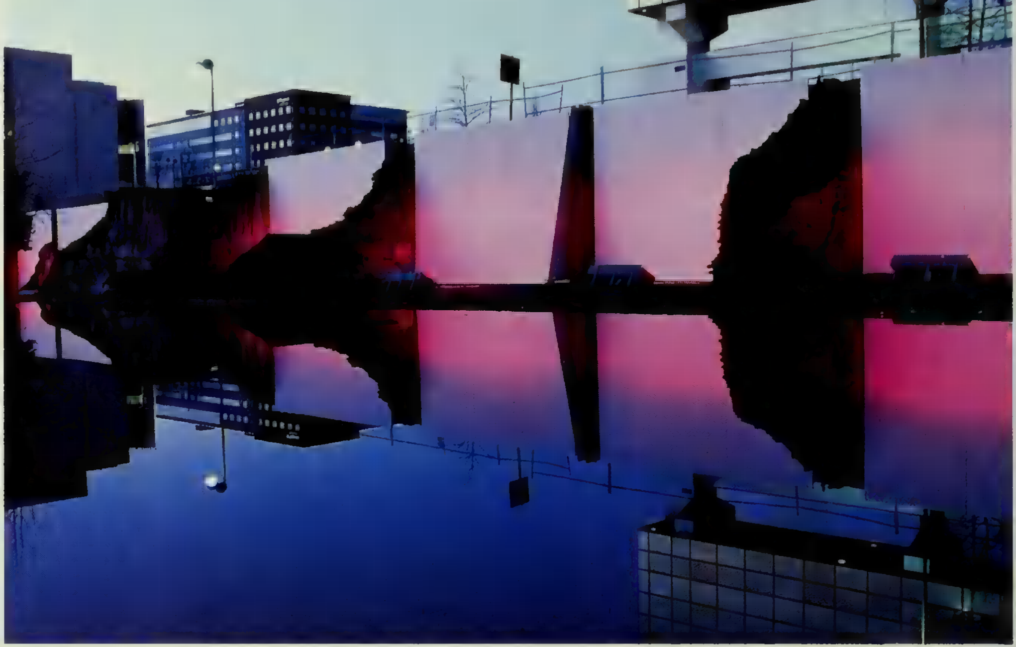
Wall washers call out the texture of the tawny brick perimeter walls. These closed-back PAR-lamp holders are mounted on stems and fitted with cube-cell louvers to shield 50-watt wide-flood halogen-infrared lamps from the view of concertgoers. The wall washers, mounted in pairs where walls, ceiling, and trusses meet, are focused on the center of each bay.

To spotlight the stage, theatrical lighting consultant Richard Smerdon situated a batten atop the truss' lower chord, where an array of mounted fixtures throw light at the stage from a 45-degree angle. Additional MR16s mounted in the lower section of the stage canopy add ambient light. The architectural and theatrical lighting are wired to the same control board to tackle a range of performance and teaching settings.
William Weathersby, Jr.

(continued on page 318)

The chandeliers conceal uplights for accenting ceiling beams, downlights for reading light, and two rings of twinkling S-lamps.

PROJECT MERGES BUILDING FRAGMENTS WITH RED LIGHT AND WATER



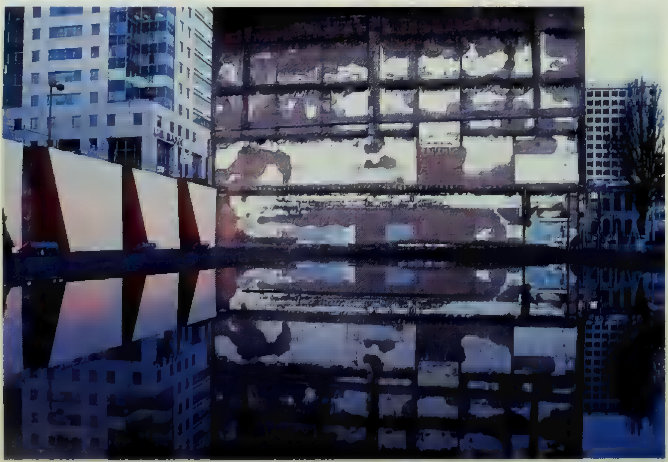
Season, Winter of Light, by architect Iole Alessandrini, was a temporary installation that operated in Tacoma during January, 2000.

Iole Alessandrini's love of architectural ruins harkens back to her childhood in Italy and post-graduate days in Rome—after finishing college she lived in a flat only a block away from the Coliseum. Later, in December of 1998, when she had travelled to the city looking for a site for a temporary art installation, it was two blocks of brick foundation wall fragments left in place as buttresses for a number of demolished waterfront buildings caught her lighting designer's eye.

Alessandrini's project, titled *Winter, Season of Light*, was initiated by the Season of Light (SOL) task force, a group formed by the Tacoma-Pierce County Chamber of Commerce, that has worked to stabilize existing historic structures and to mitigate blight in downtown Tacoma. The group's hope was that the installation would attract people to the downtown area, increase public awareness of new projects in the district, and encourage further positive changes. Karen Knipher, SOL's chair, had previously heard about Alessandrini's work ["Light and Shadows," RECORD LIGHTING, February 1997, page 141] and invited her to make a presentation the SOL committee. Her work resonated with them, and she was given a commission.

"One of the most challenging aspects of my work," says Alessandrini, "is to simultaneously deal with two very different types of media." One is the architecture, which is physical—the long brick retaining walls that existed on the site. The other is energy—the light that's added to the project. She goes on to explain that architecture is shelter; but light is transient and vulnerable. "The opposed nature of the properties of these media inspires my art."

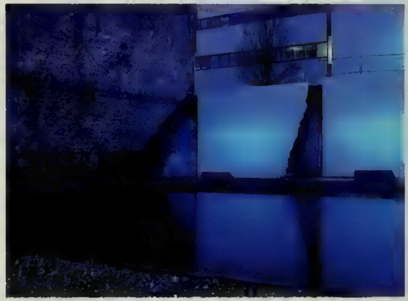
Light from gelled wall washers turn from pink to red as lamps warmed up.



It took a year from the acceptance of Alessandrini's proposal until its completion in December of 1999. Sitework for the project included bulldozing away earth and debris, adding 800 tons of gravel sub-base, so that a 6-inch-deep reflecting pool could be added when construction of the other parts of the project had been completed, to increase its visual impact.

To reflect light off the retaining walls, and emphasize the spaces where 24-foot wide buildings once stood, 16-foot-high, light-reflecting panels were constructed. To ease handling and transportation, these reflectors were made off-site in 8-foot-wide pieces. Once delivered, they were assembled into 24-foot wide sections, and installed snug between the brick buttresses in front of the retaining walls. The light-reflecting panels—covered with a plastic wrapping material that shrinks when heated—were painted with a velvet-textured white paint to minimize undesirable reflections.

Three 400-watt metal-halide wall washers, mounted inside wooden boxes, were used to light each reflecting panel, and red gels were stretched across the top of each box. "Red is found in the color of sunsets," she says, "and is the color of fire alarms. It instinctively draws people's attention."

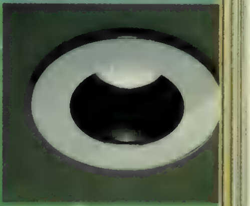


From December 31, 1999 to January 16, 2000, the lighting operated twice each 24-hour period, during the dawn hours, from 5:00 to 8:00 A.M. and from 5:00 P.M. to 2:00 A.M. As the red-filtered metal-halide lamps warmed-up, the color on the panels intensified, from light pink to deep red. During the last two weeks of the installation, it was the artist's intent that the gels would be changed to deep blue, as shown in the mock-ups pictured here. Unfortunately, gale-force winds destroyed the reflecting panels the day before the gels were to be changed. All was not lost, however. The project was awarded a $20,000 Paul Allen Foundation grant, and Alessandrini and Karen Knipher are using the funds to create a book to commemorate the project. *CDL* ■

new way to look @ lucifer

www.luciferlighting.com

Calyx



Basso

tria

A clearer vision. An in-depth view. Now Lucifer Lighting Company is online. Visit our website to see the entire product line, breathtaking application imagery and a wealth of comprehensive product specifications.

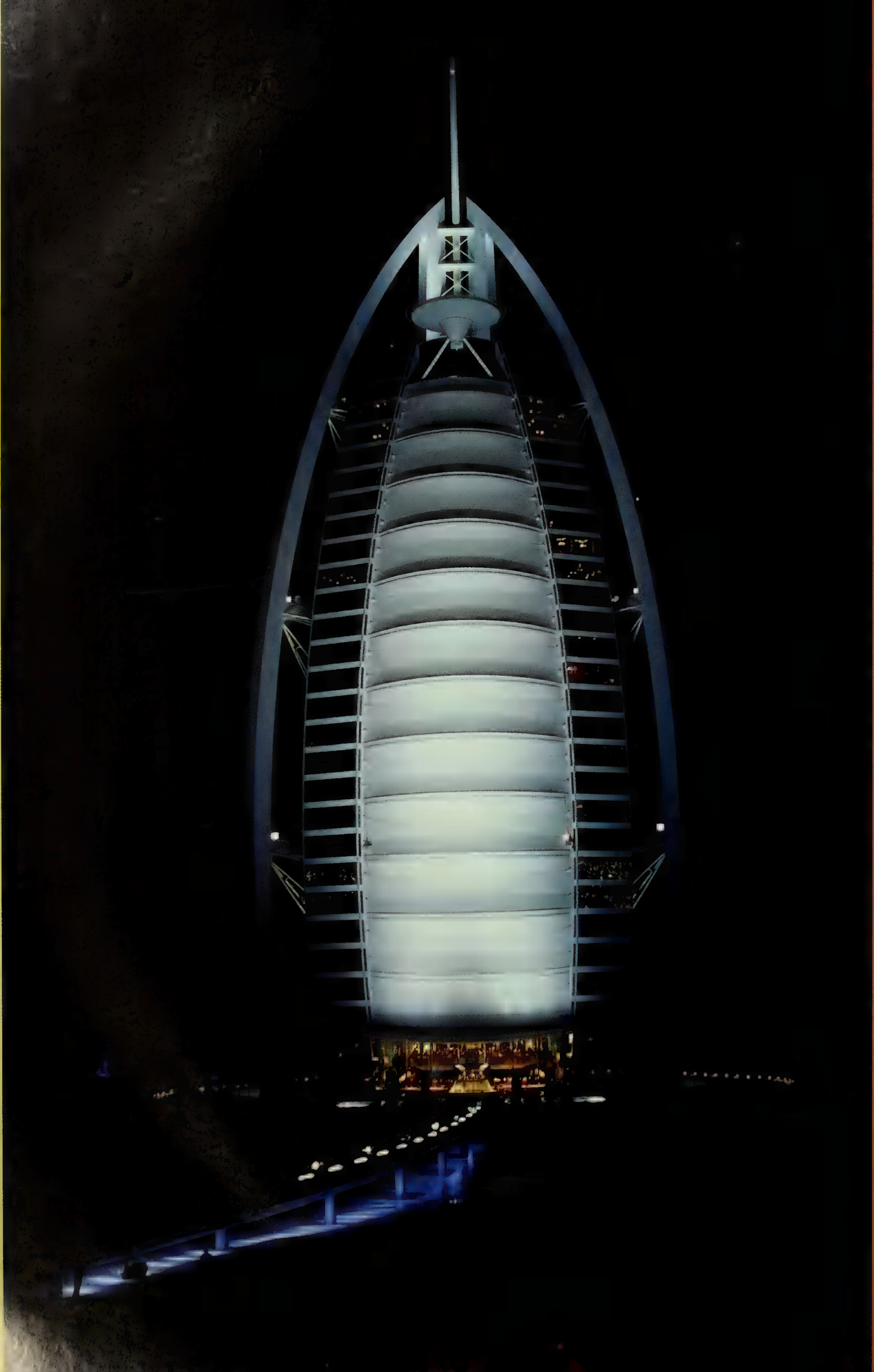
Inside and out, Lucifer Lighting Company's newest lighting solutions are as beautiful as ever. At right: Calyx, a petite glowing sconce, lit by fiber optics. Low-voltage Basso, a deeply recessed downlight, using Par or R lamp and multiple effects devices. At left: Stria, a compact low-voltage linear fixture that surface mounts or recesses flush to walls...even coves.

www.luciferlighting.com

LUCIFER
LIGHTING COMPANY
CIRCLE 125 ON INQUIRY CARD

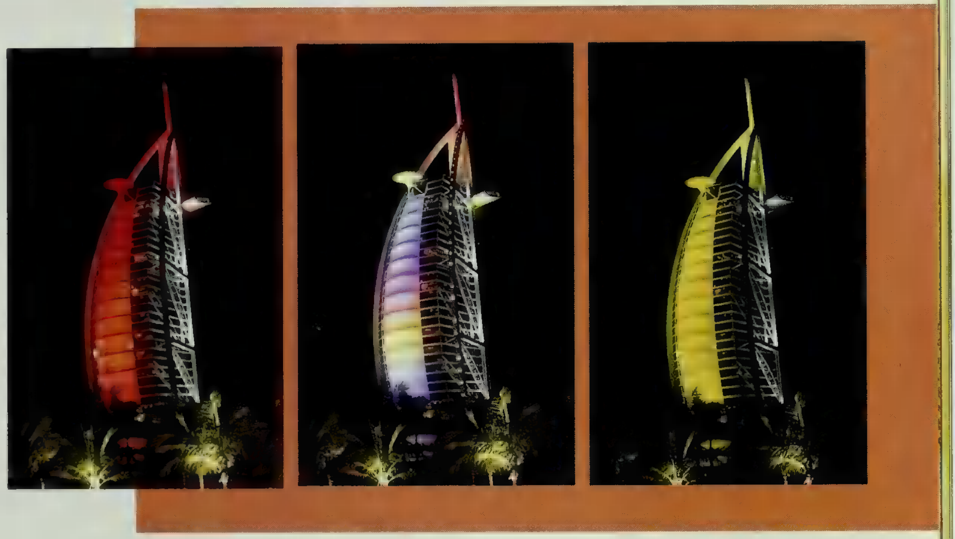
1-800-879-9797
Fax 1-210-227-4967

©2000 Lucifer Lighting Company. All rights reserved.



Vast numbers of computerized, color-changing luminaires and strobes, subtly concealed in the building's structural skeleton, have been used to turn the hotel facade into an awe-inspiring kinetic display of light and color (left and opposite).

Color washes turn a Dubai hotel into a huge, animated lighting spectacular



By Nayana Currimbhoy

Everything about the Burj Al Arab Hotel had to be the biggest and the best. Located on its own private, man-made island off the coast of Dubai, the exclusive Arabian tower claims to be the tallest hotel in the world, with the world's tallest atrium. It even sports a cantilevered restaurant and helicopter pad at its crown. All of the lighting for the hotel—the exterior, restaurants, gardens, pools, the automobile bridge, as well as the other buildings that make up the surrounding Jumeirah Beach Resort—was designed by Jonathan Speirs & Associates (JSA) of Edinburgh and plays a major role in creating the image desired by the owner, H.R.H. Sheikh Mohammed.

Three elements comprise the tower: the crown of the building, the fabric facade, and the building structure. The structure, referred to as an exoskeleton, consists of a massive steel frame stiffened by diagonally mounted trusses. It is lit with cool, metal-halide projectors, which use various widths of spread lenses to ensure that the building is evenly lit and that no light spills into adjacent bedroom windows. Strobe lights built into large vertical and curved frame members can be programmed to provide a wide assortment of patterns and chases.

A Teflon-coated fabric wall, which by day shields the atrium from the intense desert heat and light, provides a canvas at night for a hypnotic light show that uses fully computerized color-changing luminaires. "We used around 200 of these fixtures on the project. I think it would be safe to say that this is the highest number ever used in any single project," says Paul Gregory, principal of the New York City-based Focus Lighting, who designed the controls for the system in conjunction with JSA.

The crown of the building is illuminated from three different locations. Color-changing luminaires located on the roof of a poolside bar on the ground are focused on the underside of the cantilevered restaurant. More are located on the roof and side wall of the restaurant and focused onto the outer face of the exoskeleton and spire, while others around the helicopter pad and roof area illuminate the inner faces of the exoskeleton and spire. The upper portion of the fabric facade is lit from fixtures concealed within planter boxes on the bridge leading to the island hotel. Fixtures for the lower portion of the fabric facade and the underside of the helicopter pad, cantilevered more than 650 feet above the island, are located in recessed pits flanking the bridge.

The tower lighting changes every half hour as evening progresses. Possible colors vary from pure white light to an almost unlimited range of single hues and multicolored patterns. In addition to this pageant of changing colors, there is a provision for special events. Concealed in a specially built room on the ground are four 7-kilowatt, large-format xenon projectors focused on the fabric facade of the tower, 660 feet away. Three of the projectors are focused one above the other to create gigantic images, 264 feet high and 88 feet wide. These projections can be specially designed for shows, seminars, and trade events. The fourth projector, which points toward the middle of the fabric screen, frequently projects images of Arab leaders onto the fabric. Adjacent to the helicopter pad are four 7-kilowatt xenon searchlights that throw moving beams of light into the sky and accompany these special presentations.

One system controls the exterior lighting. It uses custom software to drive two theatrical controllers linked to a menu screen. A single touch allows the operator to point to any part of the resort complex and change the lighting. Control signals are sent to the various zones of the project via fiber-optic cable. For ease of maintenance, the computerized color-changing luminaires are ganged in groups of five, and strobes are on individually isolated circuits, rather than being wired together. Says Jonathan Speirs, principal of JSA, "The success of a job like this rests on the ease with which the equipment can be manipulated and maintained." ■

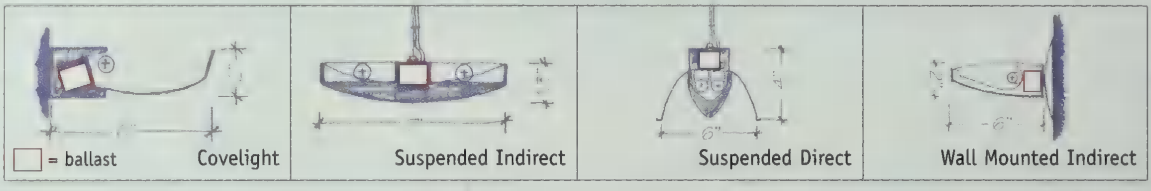
Nayana Currimbhoy is a New York City–based freelance writer and frequent contributor to RECORD LIGHTING.

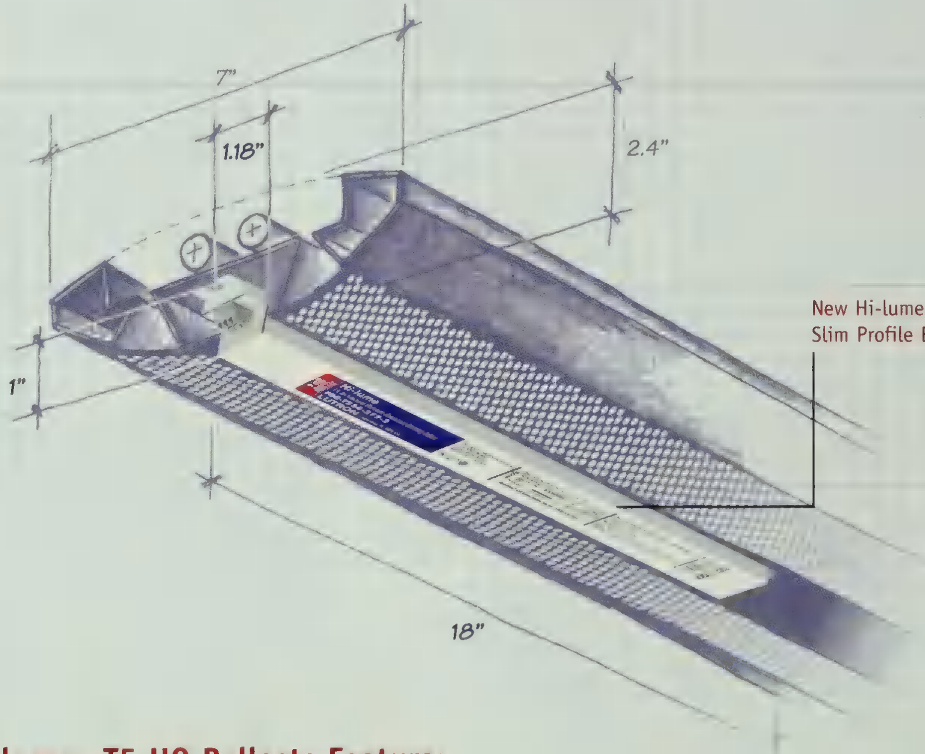
Project: *Burj Al Arab/Jumeirah Beach Resort, Dubai*
Owner: *HRH Sheikh Mohammed*
Architect: *W.S. Atkins & Partners Overseas*
Lighting designer: *Jonathan Speirs & Associates—Jonathan Speirs, Gavin Fraser, Malcom Innes, Alan Mitchell, James Mason, and Iain Ruxton, design team*
Lighting controls designer: *Focus Lighting—Paul Gregory, principal*

Sources: Computerized color-changing luminaires and controllers: *Iridium ETC*
Strobes: *High End Systems*
Scrolling projectors: *PIGI ETC Audio-Visual of France*
Searchlights: *Skytracker*
Touch screen controllers: AMX

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

New Hi-lume® dimming ballasts expand design possibilities for T5 HO luminaires





Hi-lume® T5 HO Ballasts Feature:

- True 1% flicker-free architectural dimming for T5 HO 54W lamps
- Slim profile steel case–1.00"h x 1.18"w
- 1.0 ballast factor
- 3-wire line voltage control for uniform luminaire-to-luminaire dimming
- End-of-lamp-life protection, current inrush limiting circuitry, <10% THD, >.95 power factor
- Rated for case temperatures of at least 75°C
- 100% performance tested; 35 years fluorescent dimming experience

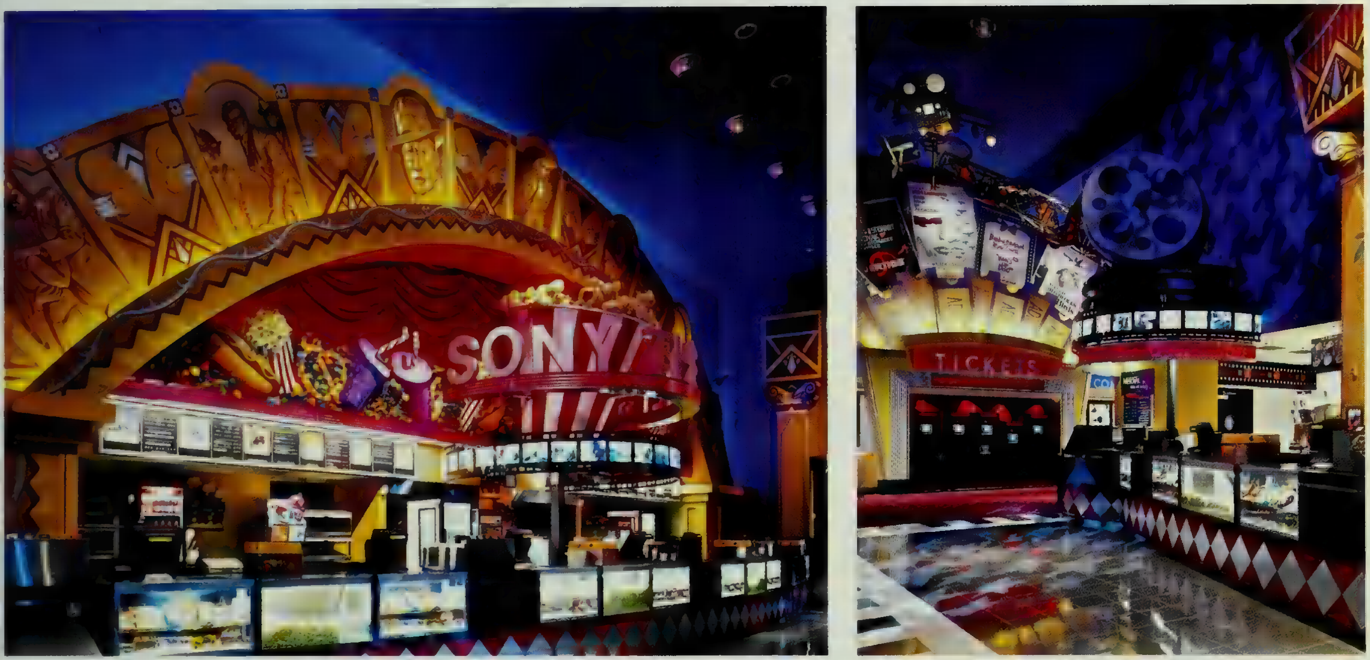
Specify Hi-lume with Performance-Matched Lutron Controls:

Tech support: 24 hours/7 days: 1-800-523-9466
Product information: 1-877-2LUTRON ext. 407
or call your Lutron representative

LUTRON®
www.lutron.com/hilumet5ho

CIRCLE 126 ON INQUIRY CARD

Lighting effects cue nostalgia and enhance popcorn appeal at Metreon's multiplex



By William Weathersby, Jr.

Like a flashy Web spin-off enhancing a traditional print product, the Metreon shopping and entertainment complex complements neighboring museums, galleries, and performance spaces in San Francisco. Completing the western edge of the Yerba Buena Center for the Arts, the 350,000-square-foot urban center comprises restaurants, stores, attractions, and movie theaters designed around the theme of technology and its role in everyday life [October 1999, page 154]. Since its debut last year, Metreon has infused pop culture into the high-culture 'hood, broadening Yerba Buena's range of visitors and nighttime appeal and subsidizing its nonprofit components.

Sony Corporation of America, which developed the center in conjunction with the San Francisco Redevelopment Authority and Millennium Partners, sought a showplace that would employ the latest audio and projection technologies while functioning as an entertaining destination in itself. "The goal was to bring back the magic of moviegoing," says architect David Rockwell of Rockwell Group, "with spaces recalling the heyday of mid-century movie palaces combined with modern production values and effects." The imaginative interiors embrace the iconography of filmmaking and classic venues such as Radio City Music Hall by featuring complex proscenium arches, red velvet curtains, Art Deco detailing, and oversize Pop Art props, including popcorn buckets, film reels, and movie cameras.

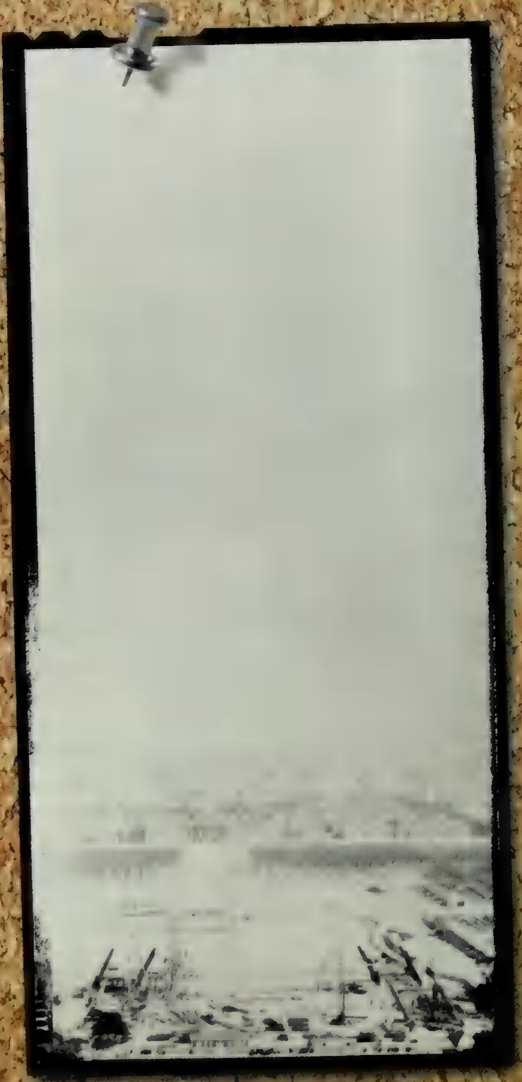
William Weathersby, Jr., is a freelance writer based in Westport, Conn., and a frequent contributor to Record Lighting.

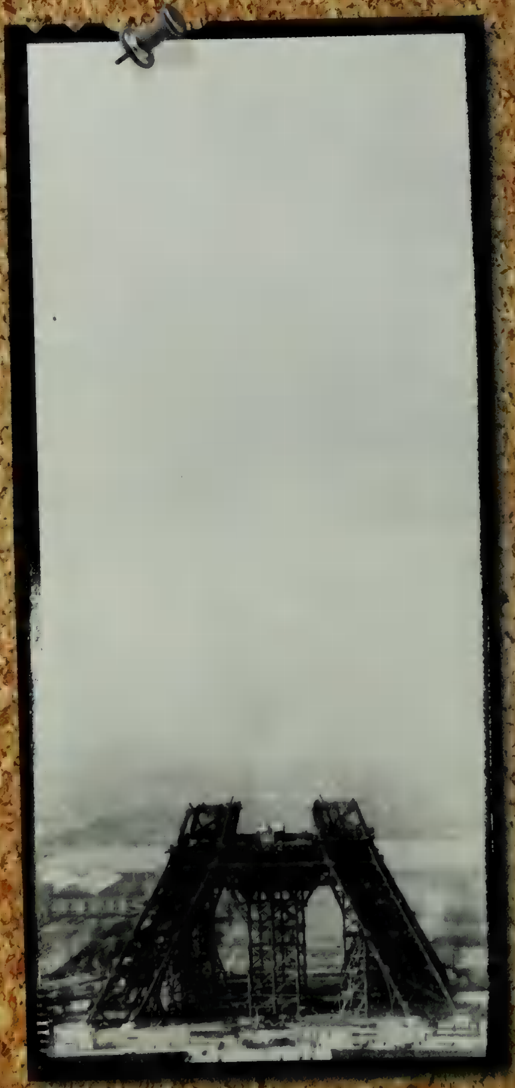
The cineplex's lighting, designed by Focus Lighting in collaboration with Rockwell Group, plays a lead role in creating the mise-en-scène. "Colorful lighting helps to define a series of events—a procession of spaces with logical pivot points and transition areas—that draws patrons through the complex," says principal lighting designer Paul Gregory. "Focal areas are set off from their surroundings by the intensity of their illumination. The juxtaposition of corridors, vestibules, and lobbies and the way they are lit create connecting sightlines that beckon visitors forward."

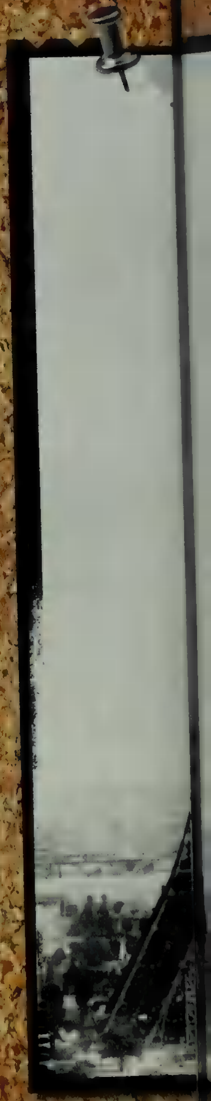
The main concession area is awash in three colors of light from neon and fluorescents (above left). Automated luminaires sweep a pattern of stars across the lobby (above right).

Project: *Sony Theatres at Metreon, San Francisco*
Building architect: *SMWM/Gary E. Handel+Associates*
Architect of record/auditorium design: *Gensler*
Design architect: *Rockwell Group—David Rockwell, principal; Carmen Aguilar, senior-in-charge; Teddy Acero, project manager; George Bennett, Scott Briggs, Ron Dechamps, Eve-Lynn Schoenstein, Amy Statuto, Julia Thompson, Seong-Hye Yoon, design team*
Lighting designer: *Focus Lighting—Paul Gregory, principal; Brett Andersen, project designer; Sepp Spenlinhauer, design assistant*
Structural engineer: *DeSimone Consulting Engineers*
Theming contractor: *Sparks Exhibits & Environments*
Box office general contractor: *Dinwiddie Construction*

EVOLUTION

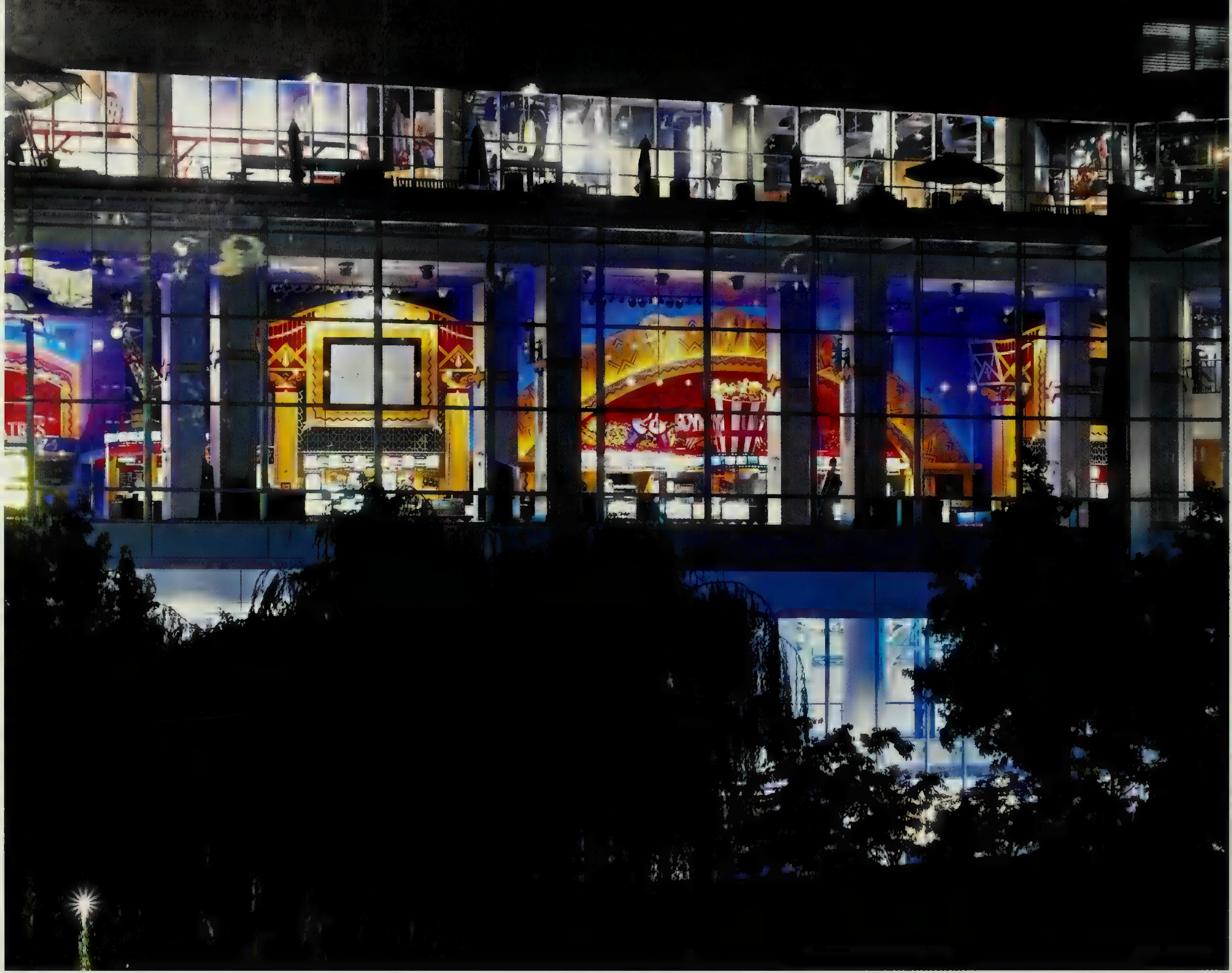




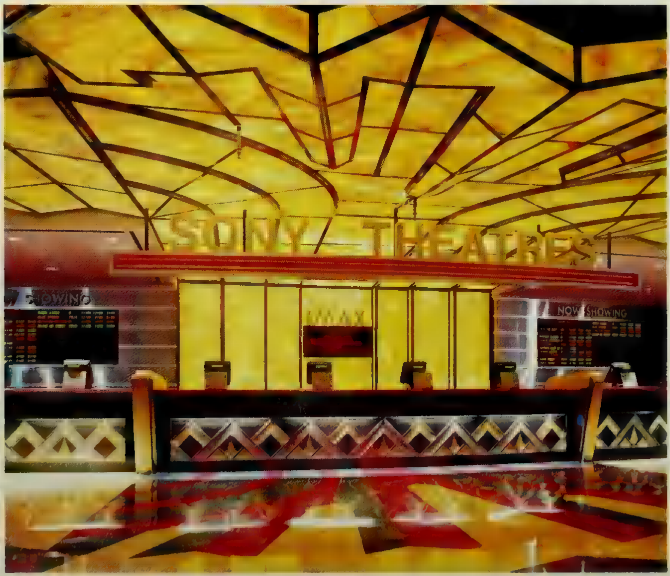


A MONUMENT

CIRCLE 127 ON INQUIRY CARD



Colorful lighting enhances scenic elements and helps the cineplex attract attention beyond Metreon's curtain wall (above). Six automated luminaires inside pan and spill light into the garden. A faux-alabaster ceiling canopy, backlit with golden neon, evokes the Deco drama of classic movie palaces in the ticket lobby (left).



Although the movie theaters are located on the third floor, the light show begins in the ground-floor ticket lobby. Patrons enter the box-office area beneath a faux-alabaster ceiling arranged in a Deco fan pattern. Internally lit with 16-foot runs of neon ranging from yellow to amber, the canopy leads toward ticket counters set in front of steel-framed acrylic panels backlit with more golden neon. One row of fluorescents backlights the metallic frieze fronting the terrazzo counter and accents its front edge. "Because the backlighting of the ceiling is so strong, no additional spot-lighting is necessary to illuminate the signage," Gregory says.

Arriving via escalator to the third floor, visitors face a panoramic view of Yerba Buena Gardens and the city skyline through the building's curtain wall. Behind a concession counter running the length of the space is a proscenium arch that frames bas-reliefs depicting scenes of movies shot in San Francisco, including *The Maltese Falcon*, *The Birds*, *Vertigo*, and *The Bird Man from Alcatraz*. Here, three colors of illumination are teamed with scenic elements to enhance the sense of excitement.

EVOLUTION ON A MONUMENT

Introducing The Ultimate Architectural Downlight

It was a gift to the world. One of the nineteenth century's greatest engineering feats. And today, 102 years after its completion, the Eiffel Tower remains a monument to Mankind's relentless drive to scale new heights. How appropriate, then, that we light—and enliven—this faithful replica using Calculite EVOLUTION, the new zenith in architectural downlighting. EVOLUTION's precision adjustable optics deliver complete aiming flexibility, while low brightness apertures minimize glare and source detection. To see this major downlighting achievement for yourself, visit EVOLUTION at www.lightolier.com or contact your local Lightolier representative.

Calculite
Evolution™

LIGHTOLIER®

See Evolution at the AIA Expo 2000, Booth 624
CIRCLE 128 ON INQUIRY CARD

Neon MR16s, fitted with dichroic filters and glass-trim downlights, provide sparkle and definition to foyers and corridors (left, below).

"The colors work with the mural to appear like a matte painting for a film, which can even be viewed from the park outside," Rockwell says. Two rows of blue neon provide backlighting along the walls, while gold and red fluorescents add complementary accents. Suspended wire-mounted MR16s uplight copper ceiling panels above the concession stand.

The concession stand is spectacular in itself. Hovering above it is a colossal popcorn bucket garlanded with an oversize film reel featuring backlit movie stills. The popcorn bucket, a painted scenic detail, is uplit with five MR16s mounted on the back side of the film reel. When hydraulically propelled popcorn kernels the size of basketballs shoot up in the air within the bucket, the effect is synchronized with two internal strobe lights and a wash of "buttery yellow light" from PAR38s, says project designer Brett Andersen. Additional PAR38 downlights provide task lighting along the black countertops. White fluorescent strips with a color temperature of 3000K internally illuminate the candy display cases.

POPCORN KERNELS THE SIZE OF BASKETBALLS SHOOT INTO THE AIR IN SYNC WITH STROBES.

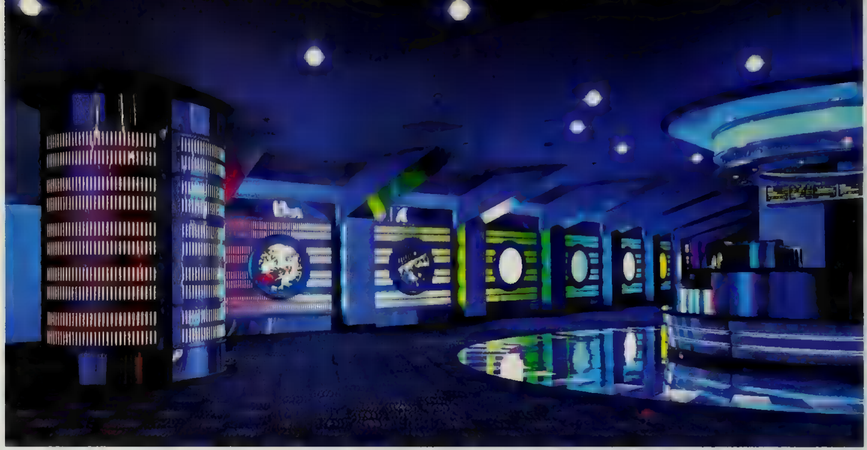
In a secondary concession area, automated overhead luminaires sweep through the space, projecting images of white stars upon the floor and surfaces. Movie posters promoting coming attractions are highlighted with theatrical framing spotlights. Beyond this, a series of foyers presents additional theatrical flourishes before ticket holders move along corridors to access individual cinemas. In one foyer, for example, a proscenium arch framing a red curtain is uplit with PAR38 lamps mounted atop a stylized marquee. "The streaks of amber from the PAR lamps, teamed with red fluorescents, add an overall glow to the red fabric and gold proscenium, like the traditional 'curtain warmer' effect used in the classic theaters," Gregory says.

Two rows of fluorescents atop each cinema portal light the archway and backlight signage. MR16s fitted with red dichroic filters wash red curtains while strips of contrasting blue neon illuminate the wall above

FLOSUSA

1 800 939 3567 1 631 549 2745

CIRCLE 129 ON INQUIRY CARD



A backlit light wall programmed with color-changing neon dominates the IMAX lobby (above).

and hallway beyond. Diamond-patterned, glass-trim downlights under each marquee add sparkle without the expense of custom decorative fixtures. Ambient lighting is kept at low levels along corridors, while the MR16 accents are used to pop out architectural and themed elements. Cinema numbers in the foyers are uplit in blue neon, atop columns accented by pull-down MR16s with contrasting pink dichroic filters. Coffers uplit with blue neon visually heighten the corridors.

In the IMAX lobby, Rockwell wanted to foreshadow the new cinema technologies found within the auditorium, which has an eight-story digital screen. The lobby features a curving wall of metal-framed light panels displaying an automated light show to envelop patrons in a high-energy atmosphere, alleviating the boredom of waiting in line. Neon, in the three primary colors plus white, backlights the Plexiglas panels and can be mixed to create virtually any color.

For the opening of the IMAX venue, the automated system was programmed with 30 color sequences that slowly change over the course of three minutes, punctuated by a frenetic 20-second show, then followed by a return to slow fades. "The concept was to create the colors of a slowly changing sunset, merging into a theatrical light show," Gregory says. To enhance special events and film premieres, the lighting can be reprogrammed.

Besides designing additional Sony flagship sites in New York, Boston, and Washington, D.C., Rockwell Group and Focus Lighting are collaborating on new suburban cineplex prototypes and retrofits of existing venues for multimedia clients across the country. Coming soon to a theater near you: a rainbow of lighting effects for the price of a movie ticket. Popcorn still extra. ■

Sources

Recessed multihead accents: *RSA*

Surface Mount adjustable accents: *LSI*

Automated luminaires: *Clay Paky*

Architectural dimming controls: *ETC/Unison*

Fluorescent cove lighting: *Columbia*

Recessed downlights: *Prescolite*

Decorative downlights: *Leucos*

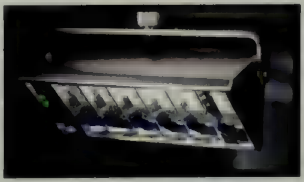
Low-voltage rail lighting: *Bruck*

WWW *For more information on the people and products involved in this project, go to* ***Projects*** *at:* ***www.architecturalrecord.com***

Design with light.

Hard. Yet soft. Tough. Yet expressive.

A family of downlights with the look and feel of stainless that's flexible enough to let you light work areas, walls, counter tops, displays, offices and homes, with etched or smooth glass shades, metal shades and barn doors. Talk with us. Hubbell Lighting, Inc., 800-270-3737. Visit our web site at www.hubbell-ltg.com.



CIRCLE 130 ON INQUIRY CARD

Structural™

KIM LIGHTING

16555 East Gale Avenue
City of Industry, CA 91745
626/968-5666

CIRCLE 131 ON INQUIRY CARD

www.kimlighting.com

Throw a curve.

MONO Rail

Hand Bendable MonoRail. You're not just designing with light, you're lighting with design.

773/883-6110 www.techlighting.com

See us at Lightfair, booth #1115.

TECH Lighting®

CIRCLE 132 ON INQUIRY CARD

The light show in Shedd Aquarium's newly restored rotunda takes visitors on a Caribbean journey

By Nayana Currimbhoy

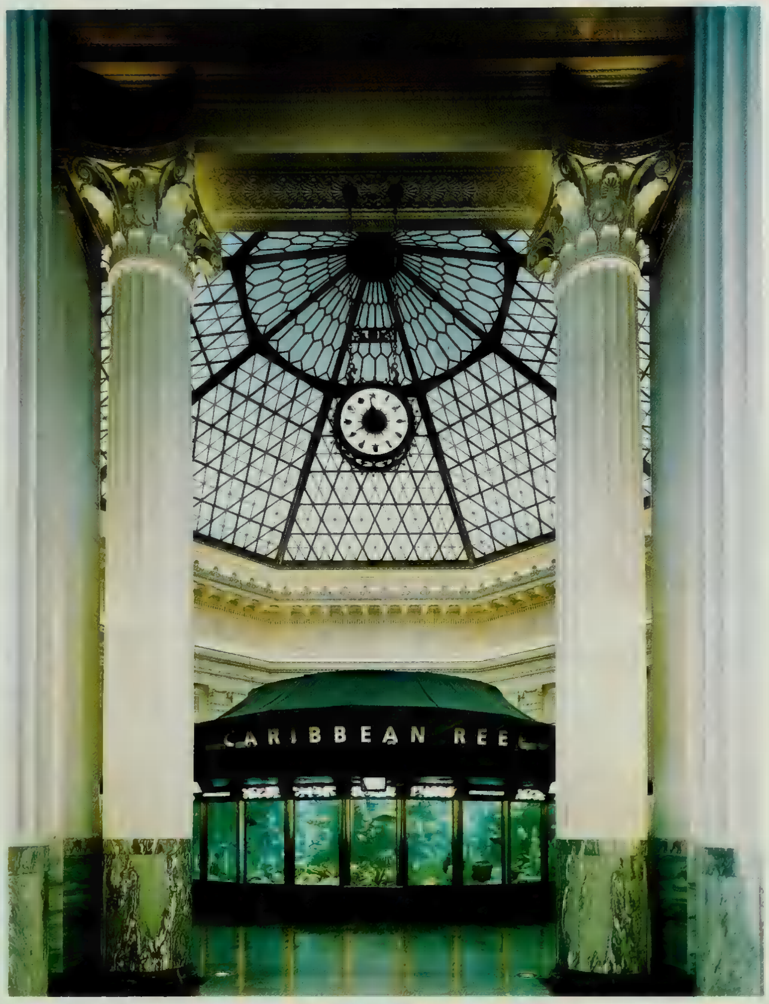
The rotunda of the John G. Shedd Aquarium in Chicago, a 1930 Beaux Arts-influenced building designed by Graham Anderson Probst & White, was conceived as a grand, light-filled room—although it was also home to a swamp exhibit. In 1970 the amphibious beasts were replaced by a 90,000-gallon Caribbean-reef tank. The 5,800-square-foot room's laylight was shrouded in black. Acoustical tile covered the period plasterwork, and the room was doused with dark green paint.

In 1995 Esherick Homsey Dodge & Davis, in collaboration with Perkins & Will and Shedd's Department of Planning and Design, began a plan for the restoration of the building.

FIVE LIGHTING SCHEMES SHOW OFF LIFE IN THE CARIBBEAN WILD.

When design work for the rotunda got under way in 1997, the client wanted to obliterate the architectural interventions of the 1970s and restore the room to its original splendor, yet still retain the Caribbean Reef exhibit. This caused "a contradiction in the design brief," says Steve Lenox, principal at Lyons/Zaremba, the project's exhibit designer. "The usual scenario is that the space surrounding the tank is dark, so the public can see without looking through reflections on the glass walls of the tank, and the water is bright for the plants and animals."

The architects, client team, and exhibit designers, working with the lighting design firm Schuler & Shook, used light, sound, and action to create an environment that allows visitors to experience both the restored room and the recently refurbished reef exhibit. Five lighting modes, provided by a variety of light sources, fixtures, and audiovisual equipment, all coordinated by a sophisticated system of controls, allow different scenes to occur repeatedly throughout the day. The modes emphasize different aspects of the exhibit and its architectural surroundings.



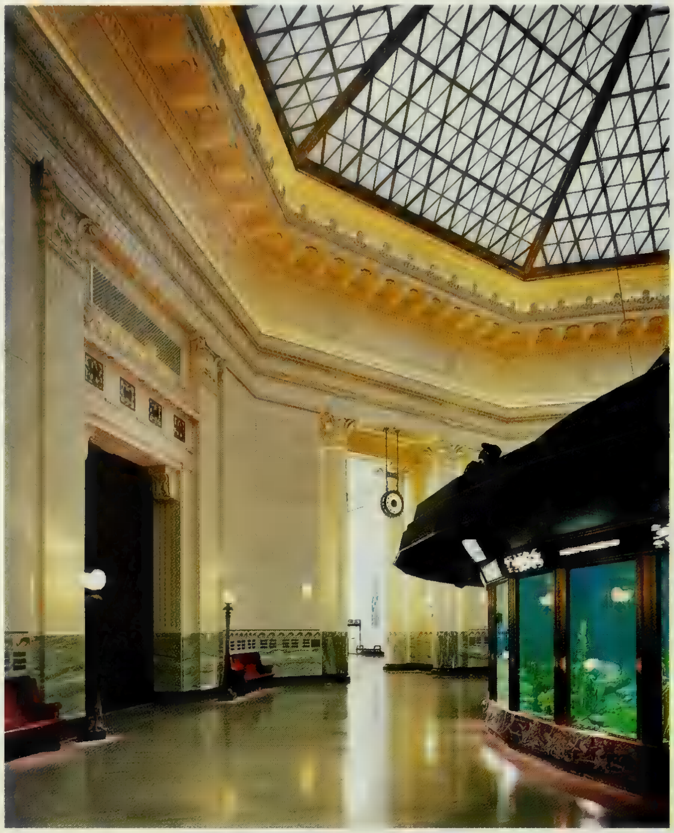
One of the Shedd Aquarium's lighting modes emphasizes the rotunda's detailing.

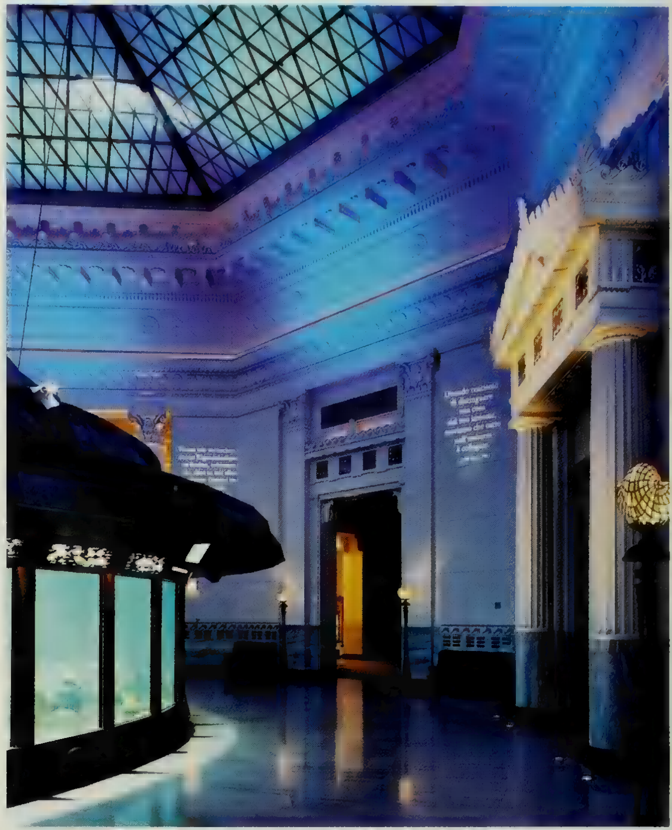
In the architectural mode, the rotunda is at its brightest, showcasing the glories of its Beaux Arts details. AR111-lamped uplights show off the columns, and xenon striplights highlight decorative cornices and porticos. Original, nautically themed sconces, floor lamps, and a clock are restored and relamped with incandescents.

It would have been possible to restore the rotunda's laylight and skylight above it, but daylight would have contributed to algae growth in the reef tank and rendered the effects desired by the designers impossible. Instead, the laylight was refit with translucent plastic, and a blackout curtain was installed above it. Thirty-two dimmable compact fluorescent floods—with five 40-watt lamps in each—backlight it, mimicking daylight. Blue-tinted metal-halide floods above the blackout curtains cast an aquamarine light through the exterior skylight, so that Shedd's pyramidal crown glows outside at night.

Because it was not possible to daylight the tank, fluorescent lights were used around the perimeter, allowing creatures swimming close to

Project: *John G. Shedd Aquarium, Chicago*
Client team: *Paul Bluestone; Mike Delphini; Bryan Schuetze*
Program manager: *McClier Corporation*
Architect: *Esherick Homsey Dodge & Davis—Charles M. Davis, FAIA (principal-in-charge); Marc L'Ilalien, AIA (project designer/manager)*
Perkins & Will—Ralph Johnson (principal-in-charge)
Lighting designer: *Schuler & Shook—Robert Shook (principal designer); Emily Klingen Smith (project designer); Frank Callahan (designer)*
Electrical engineer: *Spectrum Engineering*
Exhibit designer: *Lyons/Zarumba*



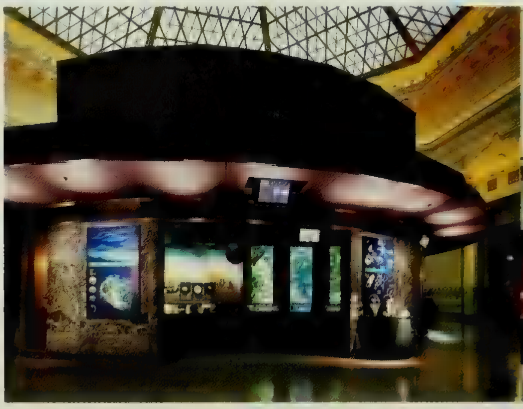


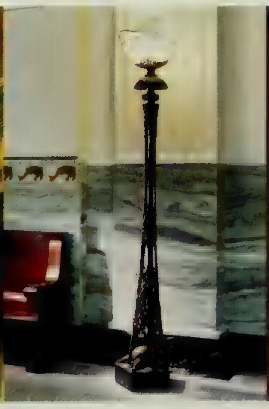
the glass to be well illuminated. Extremely bright, 6000K sulfur spotlights, whose lamp life is 60,000 hours, were mounted over the water in the tank to simulate rays of direct sunlight. Blue-filtered metal-halide spots provide "moonlight" when the room is used for evening fund-raisers.

Three different lighting scenes occur throughout the day. In the first mode, "sky," the architectural lighting dims, and images of stars, the moon, the rising sun, clouds, and text are projected around the room using animated fixtures hidden above the tank brim. "Rain," the second mode, takes visitors to the depths of a Caribbean rain forest as strobes above the laylight flash and foliage is projected on the ceiling. Clouds darken and embrace the rotunda in a crashing thunderstorm. The third mode, "water," takes visitors from the shallow waters of the reef to its depths: As pale blue light fades to deep blue, projections of waves move up the walls. After "water," the ambient rotunda lighting level rises, and a dive show begins.

The combination of architecture, exhibit, light, and sound was a collaborative process that required much coordination between the design firms. "The objective was to create a space with a sense of animation, so that in any half hour of the day, the visitor would see more than one scenario," says Schuler & Shook principal Robert Shook. ■

During the "dive" mode, (left, above and below) the architectural lighting level (previous page) in the rotunda is slowly brought down, so that the aquarium is the brightest object in the room. As the "sky" mode occurs, clouds are projected onto the ceiling (above right). Nautical-themed sconces and torchères were cleaned and restored (below middle and right).





Sources

Column uplights: *Architectural Area Lighting*

Low-voltage striplights: *Starfire*

Fluorescent tank spotlights: *SPI*

Compact fluorescent floods: *Sportlight*

Theatrical dimming system: *Strand*

Sulfur lamps: *Innovative Lighting*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

eSconce™

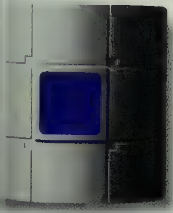
exterior sconce

Its merits include four reflector systems for precise illumination, high efficiency lamp sources, and rugged die cast aluminum construction. The eSconce™ is available as an uplight, downlight or both (as shown).

Its charms include a softly luminous window that can be endowed with color or backlit acrylic ribs. Or one of nine optional overlay panels in aluminum, brushed stainless steel or natural copper.

Why demerit your next project with an ugly wall pack when instead you can add some charm with the new eSconce™ from AAL.

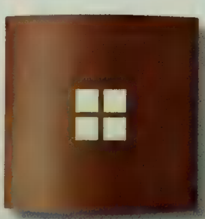
:harm strikes the eye, but merit wins the soul"



dd color to the
ont window with
internal gel filter

overlay panel
in brushed
stainless steel with
a perforated center

add backlit acrylic
ribs and a gel filter

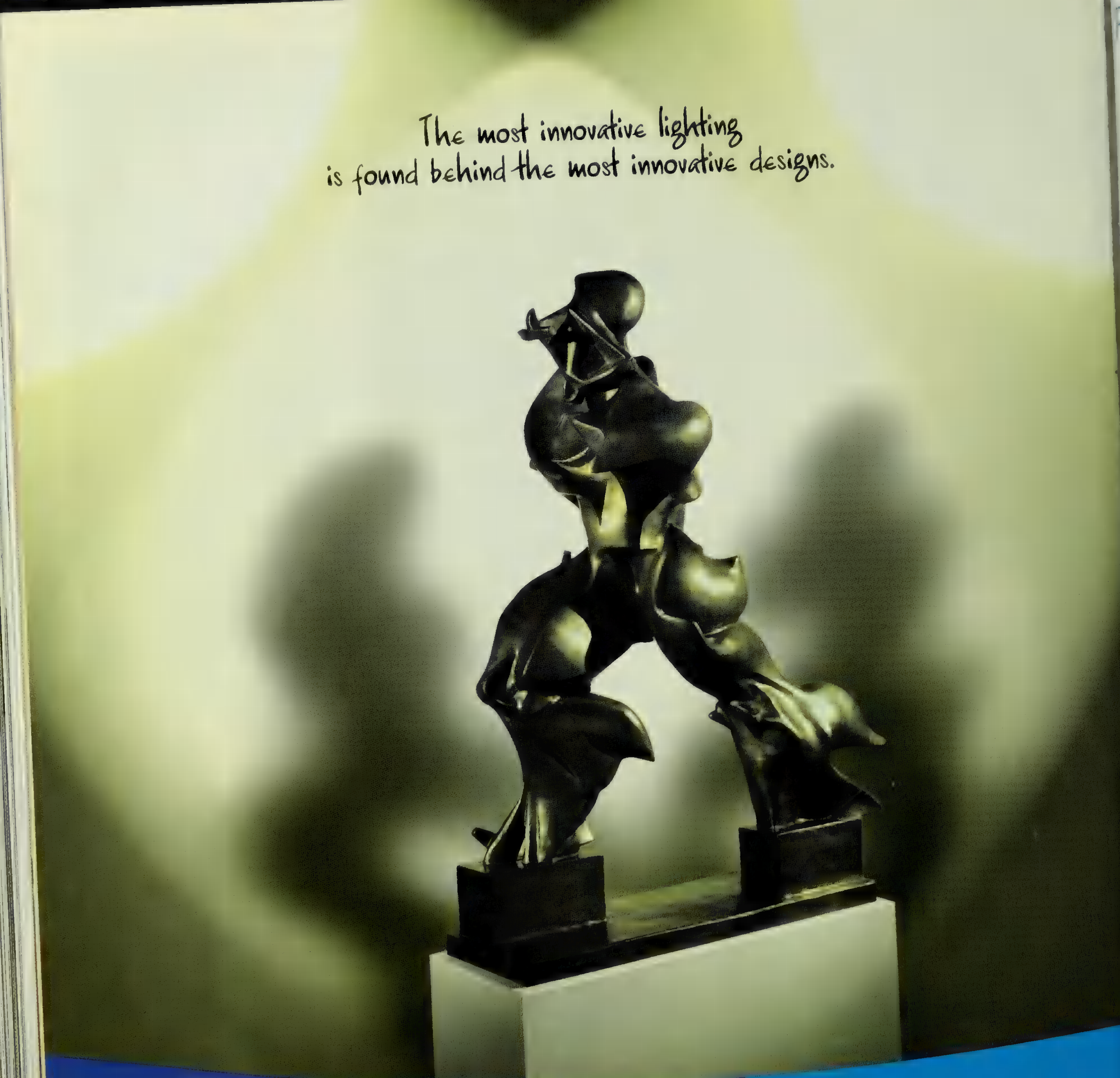


overlay panel
with four squares
in natural copper

CIRCLE 133 ON INQUIRY CARD

ARCHITECTURAL
AREA
LIGHTING

14249 Artesia Blvd.
La Mirada, CA 90638
Tel 714.994.2700
Fax 714.994.0522
www.aal.net


The most innovative lighting
is found behind the most innovative designs.

At Philips Lighting Company, we design to maximize the visual experience. Our innovative **MasterLine**™ halogen and **MasterColor**® lamps provide superior control and color consistency. Of course, we also consider the environment a partner in our vision. Our acclaimed **ALTO**™ lamps revolutionized fluorescent technology with low mercury content. The **Marathon**® collection is uniquely designed to conserve electricity. For more information, call 1-800-631-1259 or e-mail us at plc.lit@salessupport.com or visit our Web site at **www.lighting.philips.com/nam**

©2000 Philips Electronics North American Corporation

PHILIPS

Let's make things better.

CIRCLE 134 ON INQUIRY CARD

Philadelphia mayor's legacy brings bright light to seven bridges across the Schuylkill River

By Nayana Currimbhoy

For years, Raymond Grenald, FAIA, has been known in Philadelphia as the man who lit Boathouse Row. In the 1970s he outlined the eccentric Victorian buildings along the Schuylkill River, where crews store their boats and racing sculls, with white Christmas lights. Their twinkling visages, visible along West Schuylkill River drive, have become a city landmark. Ever since this success, he has wanted to extend his influence to the bridges that cross the river.

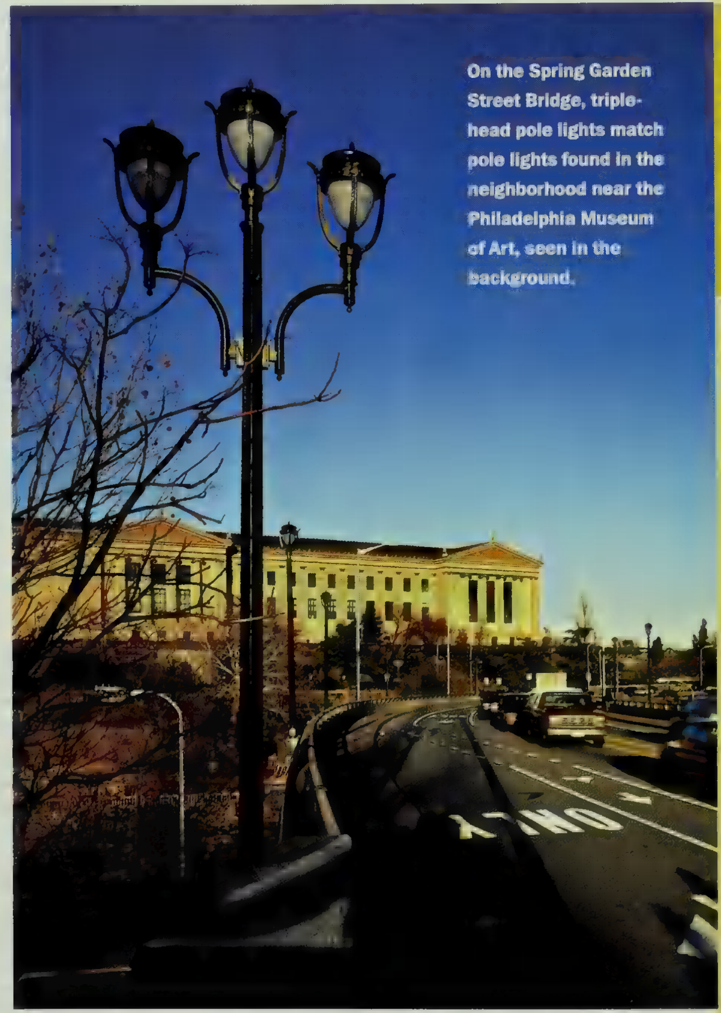
Philadelphia is a city of bridges. Grenald first submitted a master plan for lighting them to the city and the Schuylkill River Development Corporation in 1992. The plan included the lighting of the seven downtown bridges that separate the commercial Center City, with its glass-and-steel skyscrapers, from West Philadelphia, a district of academic, medical, and research centers. "The bridges were being treated as highways, not articulated as bridges," says Grenald.

THE LIGHTING GIVES EACH BRIDGE ITS OWN IDENTITY BUT CONNECTS THEM ALL TO THE SURROUNDING LANDSCAPE.

In January 1999, Grenald received a call from Ed Rendell, then the mayor of Philadelphia. His Honor was retiring at the turn of the century and had decided that lighting the bridges was to be his legacy. The project, which Grenald's office estimated to cost two million dollars, was slated to be completed in time for the city's millennium-eve celebration.

Grenald's office decided to treat the bridges as part of the city landscape. Accordingly, the plan was to light the bridges so that they acted as a gateway for the city, to highlight the unique identity of each bridge, and to articulate a connection between each bridge and the landscape around it. The seven bridges, which vary in length, structure type, and traffic flow, were built over an 80-year period, ranging from the turn of the last century, to the early 1980s. The overall plan was to illuminate all the sides and bottoms of the bridges with floodlights and to create a lighting plan unique to each bridge. Underbridge lighting would not only articulate the bridges but would make pedestrians and drivers aware of the river itself. Each bridge is defined at its ends by a custom-designed, multiheaded pole fixture, inspired by the neighborhoods it connects. Smaller versions of these fixtures are used along the spans of each bridge, offering pedestrian lighting.

Two arched masonry bridges, the Southeastern Pennsylvania Transportation Authority (SEPTA) Bridge and the Market Street Bridge, were outlined by xenon string lights. At the SEPTA, four 150-watt floodlights mounted to the underside of each arch complement the carnival lights, while the arches of the Market Street are highlighted by 16-foot-long fluorescent sign-lighters containing blue lamps.

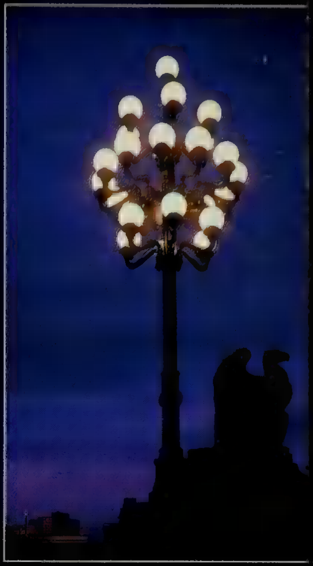


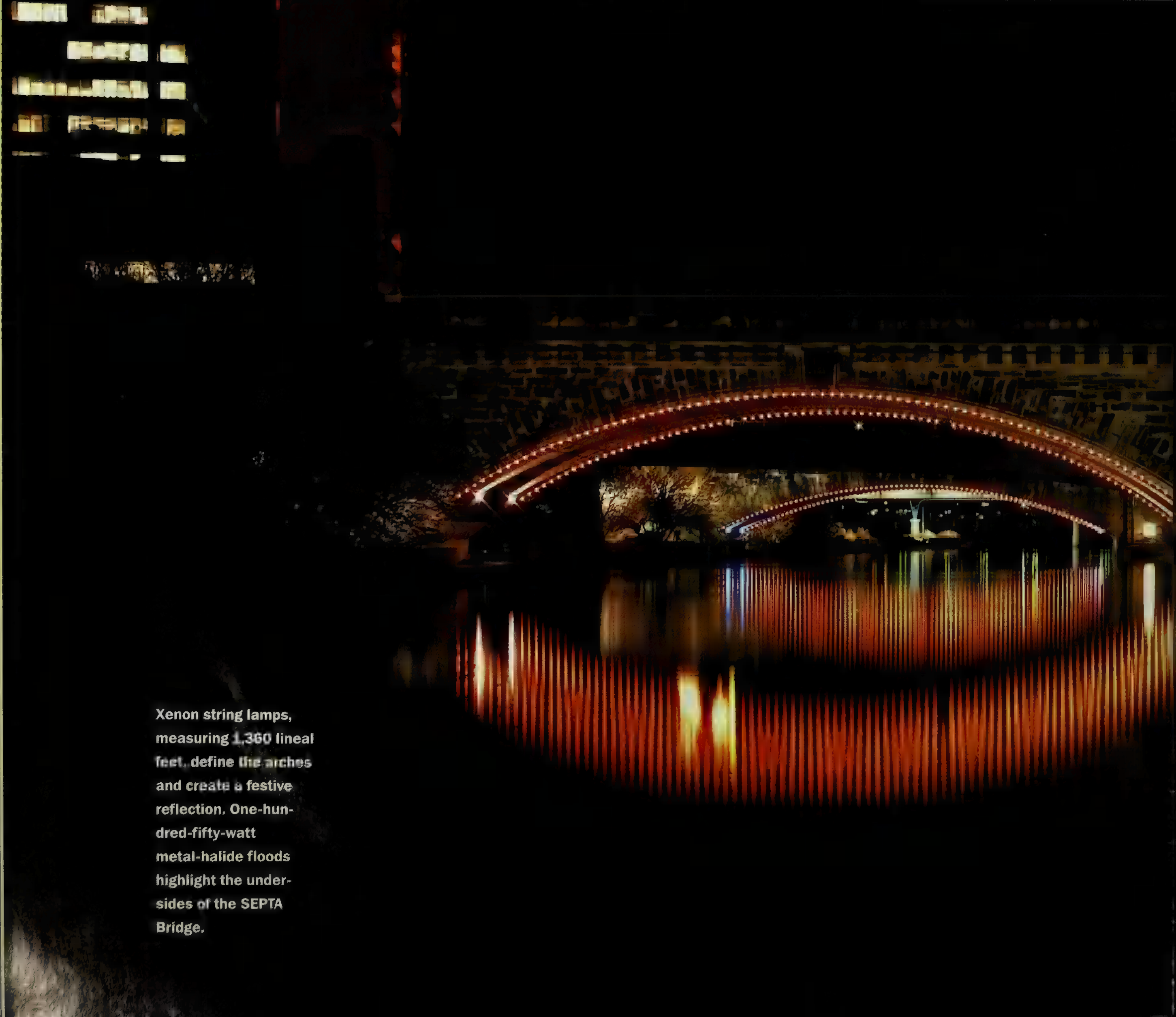
On the Spring Garden Street Bridge, triple-head pole lights match pole lights found in the neighborhood near the Philadelphia Museum of Art, seen in the background.

Pale blue fiber-optic strips outline the steel girder construction of the Walnut Street Bridge, and shore and abutment metal-halide floods light the underside. The Spring Garden Street Bridge is also illuminated by metal-halide floods, which are ground-mounted. For the Chestnut

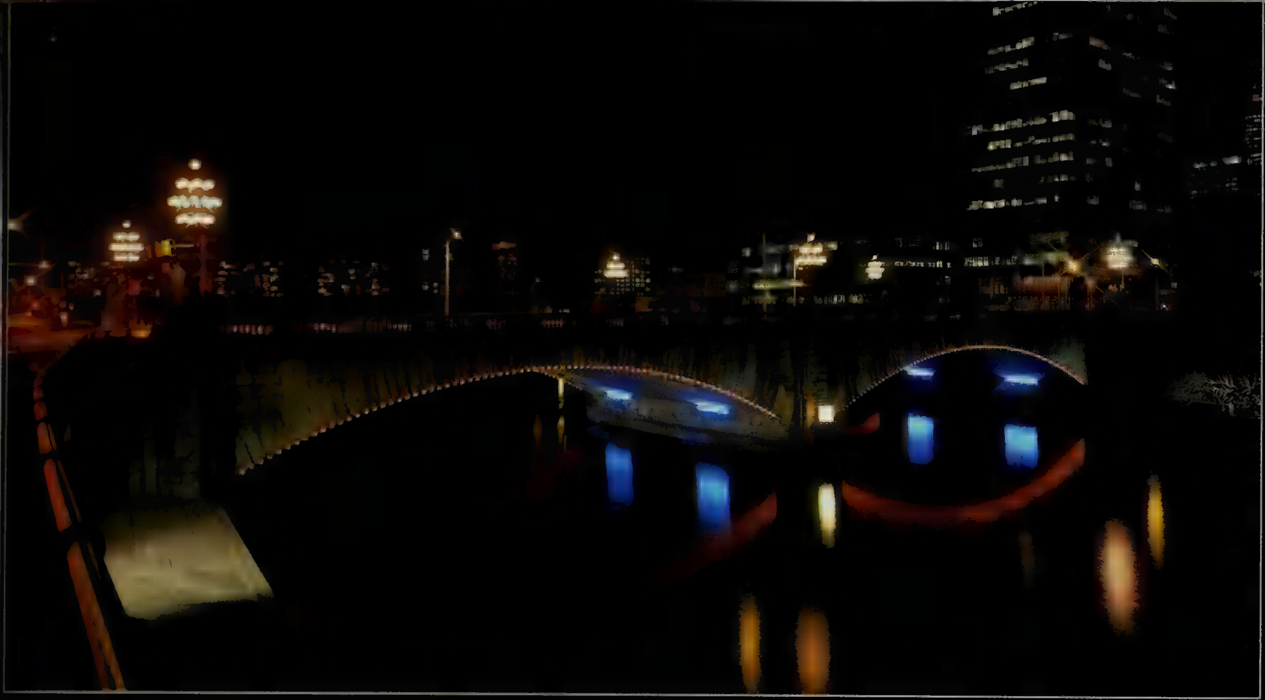
Project: *Schuylkill River Bridge Lighting*
Owner: *City of Philadelphia*
Client and funder: *Millennium Philadelphia*
Lighting designer: *Grenald Waldron Associates—Raymond Grenald, FAIA (chairman); Courtney S. Sarge, (senior designer and project manager) Stephen Palmer, Dalia Kairiukstiene, Jeffrey Kahn (designers)*
Electrical engineer: *PECO Energy; Pennoni Associates*
Electrical contractor: *Riggs Distler & Co.*

The custom-designed portal light at the Market Street Bridge (right) was inspired by the lights at Philadelphia's City Hall. Smaller versions mark the middle of the bridge.

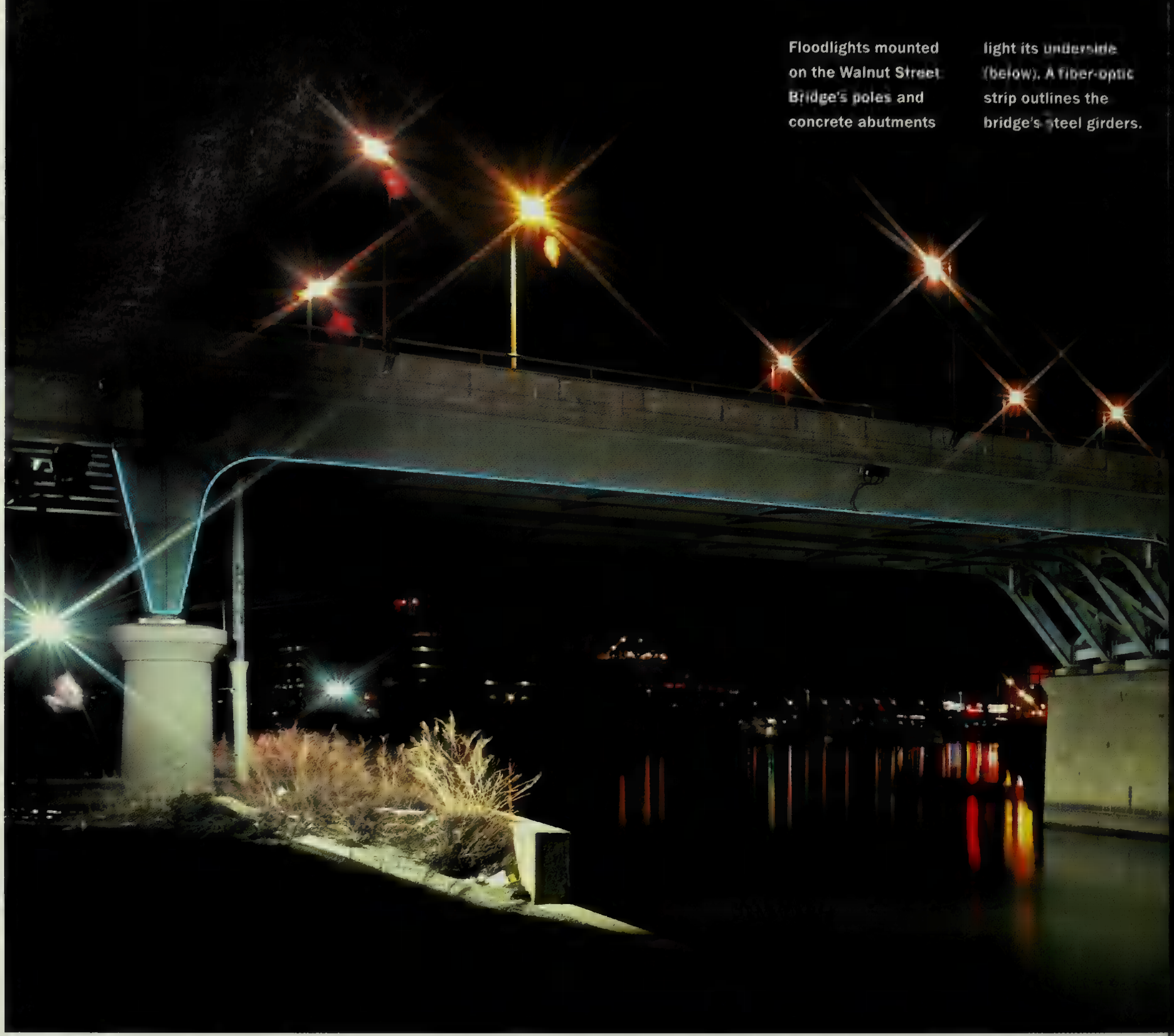




Xenon string lamps, measuring 1,360 lineal feet, define the arches and create a festive reflection. One-hundred-fifty-watt metal-halide floods highlight the undersides of the SEPTA Bridge.



The underside of the SEPTA Bridge (above) is highlighted by fluorescent sign-lighters lamped with blue T12 lamps.



Floodlights mounted on the Walnut Street Bridge's poles and concrete abutments light its underside (below). A fiber-optic strip outlines the bridge's steel girders.

Street Bridge, 24 four-foot, surface-mounted wet-location fluorescents, each containing T8 lamps, were mounted to the underside of the sidewalk on both the north and south sides of the bridge, casting a glow of reflected light.

Although fixtures were individually designed for each bridge, the lamping and hardware have been standardized to ease maintenance and repair. All the floodlights are metal halide, all pedestrian lights are compact fluorescent, and all roadway lights are high-pressure sodium. Standard light poles were used on all the bridges.

"The story of the lighting of the Philadelphia bridges is as much about logistics as the types of lamps used and their locations," says senior designer and project manager Courtney Sarge. It took 20,000 linear feet of conduit and 250,000 linear feet of wire to power the bridges. There were 40,000 supports for fixtures and conduits. While the contractors were working, a boat was required in the river as a safety measure, and, in the case of SEPTA, which is a railway bridge, the lights had to be installed from a barge in the river. Although the project was initiated in January, it was September before the funding fell into place and construction could begin. Designers and contractors worked with tight funds, tight deadlines, and freezing temperatures. After endless hours of adjusting and fine-tuning, the bridges came to life at 8 P.M. sharp on the new millennium's eve—all at the same time. ■

Sources

Floodlights: *Widelite*

Decorative pole lights: *Spring City*

Fiber optics: *Supervision*

Surface-mounted fluorescents: *Nuart*

Surface-mounted globes: *Exceline*

Street-lighting poles: *Shakespeare*

Street lighting: *GE Lighting*

Xenon string lights: *Tokistar*

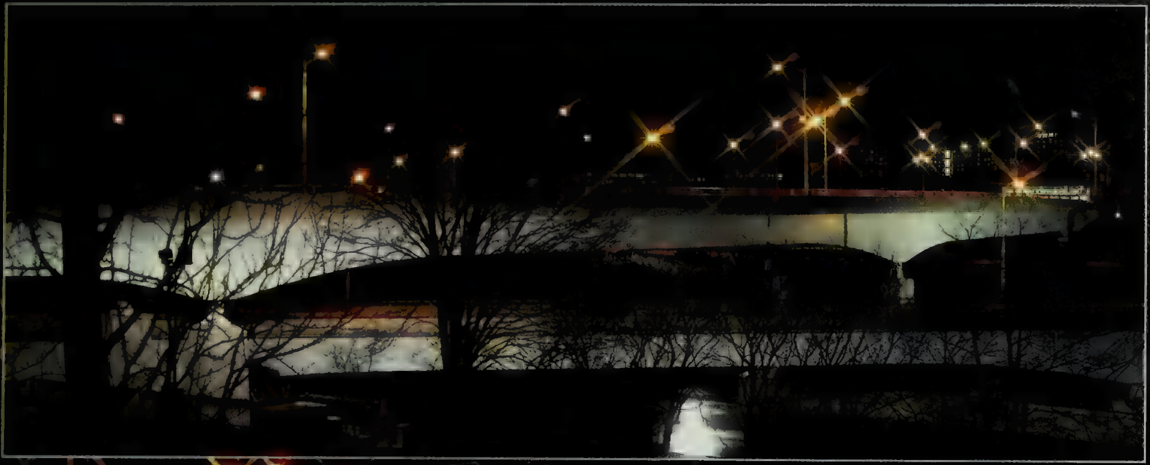
Indirect floodlights: *Insight*

Lamps: *Osram/Sylvania*

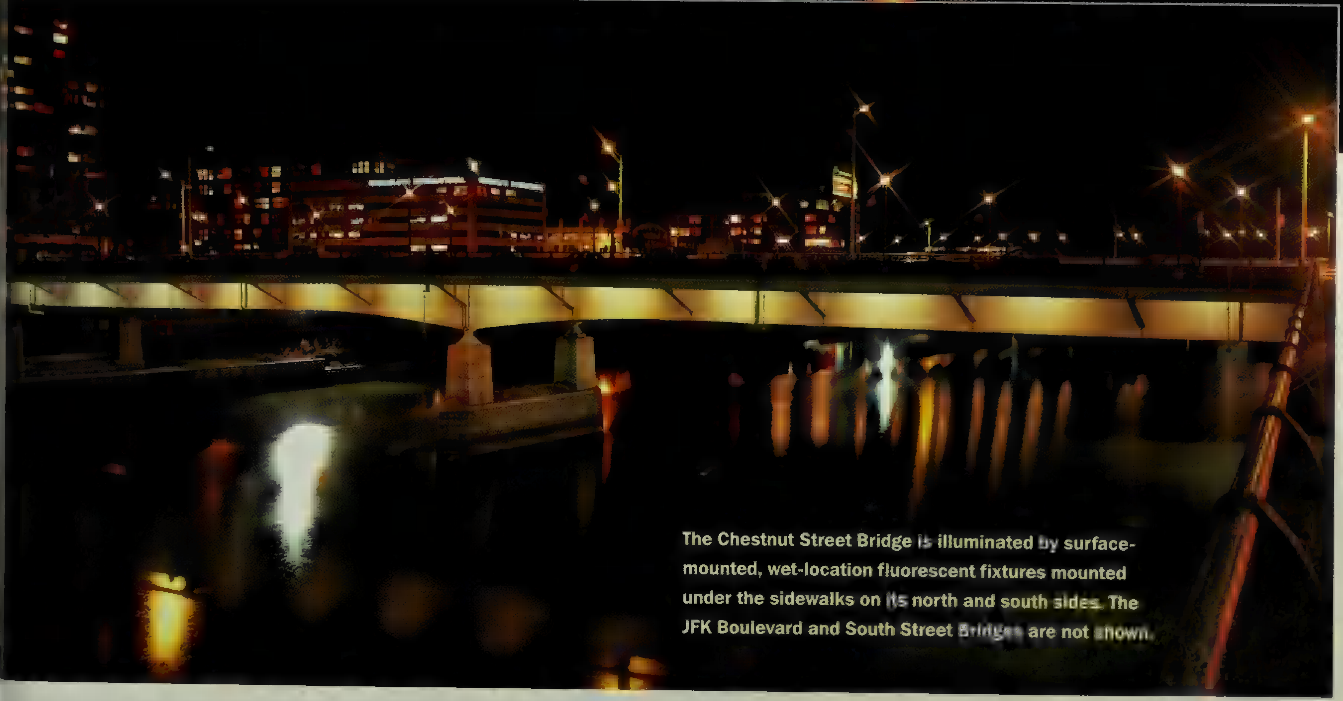
Decorative luminaire: *Sun Valley; Street Lighting Corporation*

Harbor lights: *restored by Klemm Reflector; fitted with Philips QL lamps*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**



The Spring Garden Street Bridge (above) is illuminated by metal-halide floods mounted on the banks of the river and along West River Drive.



The Chestnut Street Bridge is illuminated by surface-mounted, wet-location fluorescent fixtures mounted under the sidewalks on its north and south sides. The JFK Boulevard and South Street Bridges are not shown.

Prescolite

A NEW QUALITY OF LIGHT

OK. We heard you. We didn't laugh. You had a vision. We thought it was innovative. You wanted a recessed downlight that wasn't recessed. We built it. It won. **A lot.** Lightfair's Technical Innovation Award. Lightfair's Best New Product of the Year Award. The ADEX Grand Prize Trophy. Europe's Industry Forum Design Award. Thanks. For us, it's just another example of our listening skills paying off. For you, it's that rare example of being heard...and maybe that's the most important innovation of all. So, what do you want to **invent** now?

TRUSTING

From Prescolite's home page, click on the "What's New" button. Click on the "Phos" icon and view a complete press release. For product and technical information, click on the adjoining link or enter from the "Products" icon on the home page. Within the "Product Information" link, you can view a list of features and download complete specification sheets, or link to find your local Prescolite representative.

www.prescolite.com

UR VISION

YOUR VISION

CIRCLE 135 ON INQUIRY CARD

ENJOY THE LIGHT

The arms are extruded aluminum.
The joints are die cast aluminum.

My magic star

Leo is the
perfect task light.
The adjustable
diffuser uses a
75 watt Incandescent
bulb and is designed
to give a soft, warm light.
The jointed arm is
engineered for smooth
articulation.
Leo is also available
with a clamp, table
through mount and
wall bracket.
Finishes available in
silver grey or polished
aluminum/silver grey.
Leo Halogen version
is available with a
50 watt bulb.
Leo Incandescent is
UL approved.

Weighted steel base
finished in die cast
aluminum.

Diffuser is
die cast aluminum.

USA Distributor:
IL America Inc.
109 Sanford St.
Hamden, CT 06514
Tel: 203 407-8000
Fax: 203 407-0066

Check our web site for
your local distributor:
www.nemoitalianaluce.it

NEMO ITALIANALUCE
GRUPPO CASSINA

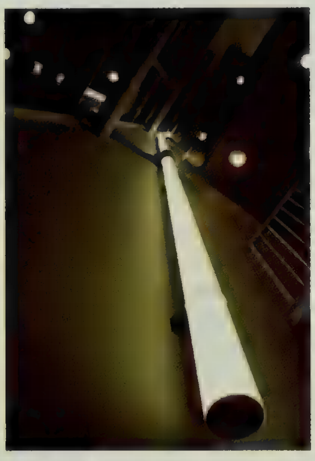
CIRCLE 136 ON INQUIRY CARD

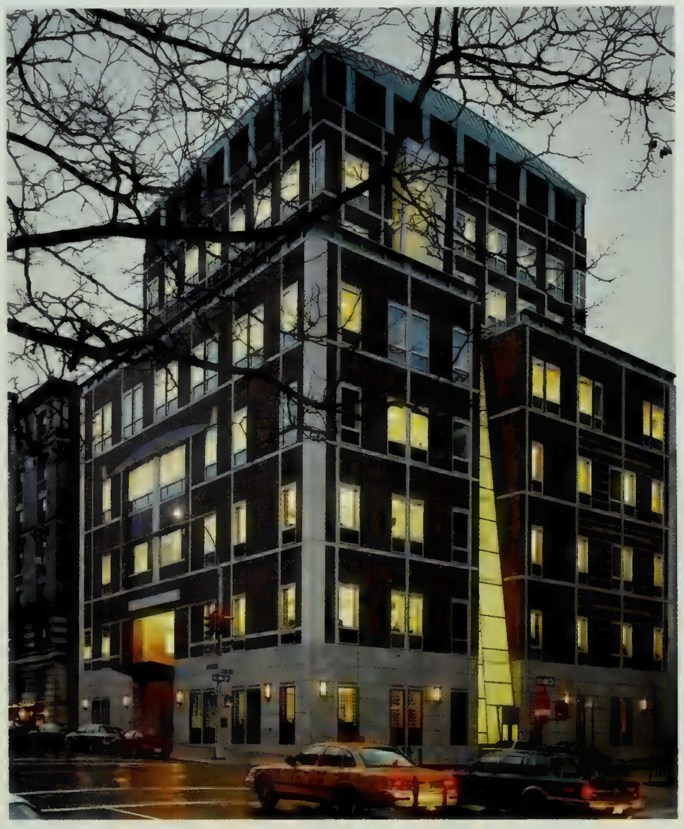
Deft illumination enhances the profile and function of classrooms at Columbia's new Warren Hall

By William Weathersby, Jr.

A new educational building on the campus of Columbia University, in New York City, serves a community of scholars, as well as future MBAs and attorneys. Designed by the Hillier Group, William and June Warren Hall is a classroom and student-services building that accommodates the graduate schools of both business and law. The eight-story structure also addresses the divergent particulars of its site. Located on the northeast corner of Amsterdam and 115th Streets, the building features the same materials and color palette—red brick, light pink granite and limestone—as the campus' Italian Renaissance-style buildings designed by McKim, Mead and White. The modern geometric pattern of the hall's facade references historic motifs found on older campus buildings across Amsterdam Avenue; it also identifies the new building as part of the university. The structure is scaled and detailed to be compatible with adjacent, dormitory and residential buildings.

To support the various programs in the 85,000-square-foot facility and to polish its campus profile, Hillier commissioned lighting by David A. Mintz, Inc. "A major part of our mission was to create adaptable lighting that addresses the many technical and functional requirements of the classroom and lecture halls," says principal lighting designer David Mintz. "The lighting along the facade and within the public spaces also was designed to impart a professional image." Faculty members and students frequently interact with leaders in the corporate, governmental, and legal worlds at events such as lectures, receptions, and fund-raisers. The approach, therefore, was to imbue the center with the sort of upscale detailing and ambience that might be comparable to that of a major law firm or corporate headquarters.





A prismatic light guide makes a Warren Hall's glass-enclosed stairwell a nighttime beacon of light.

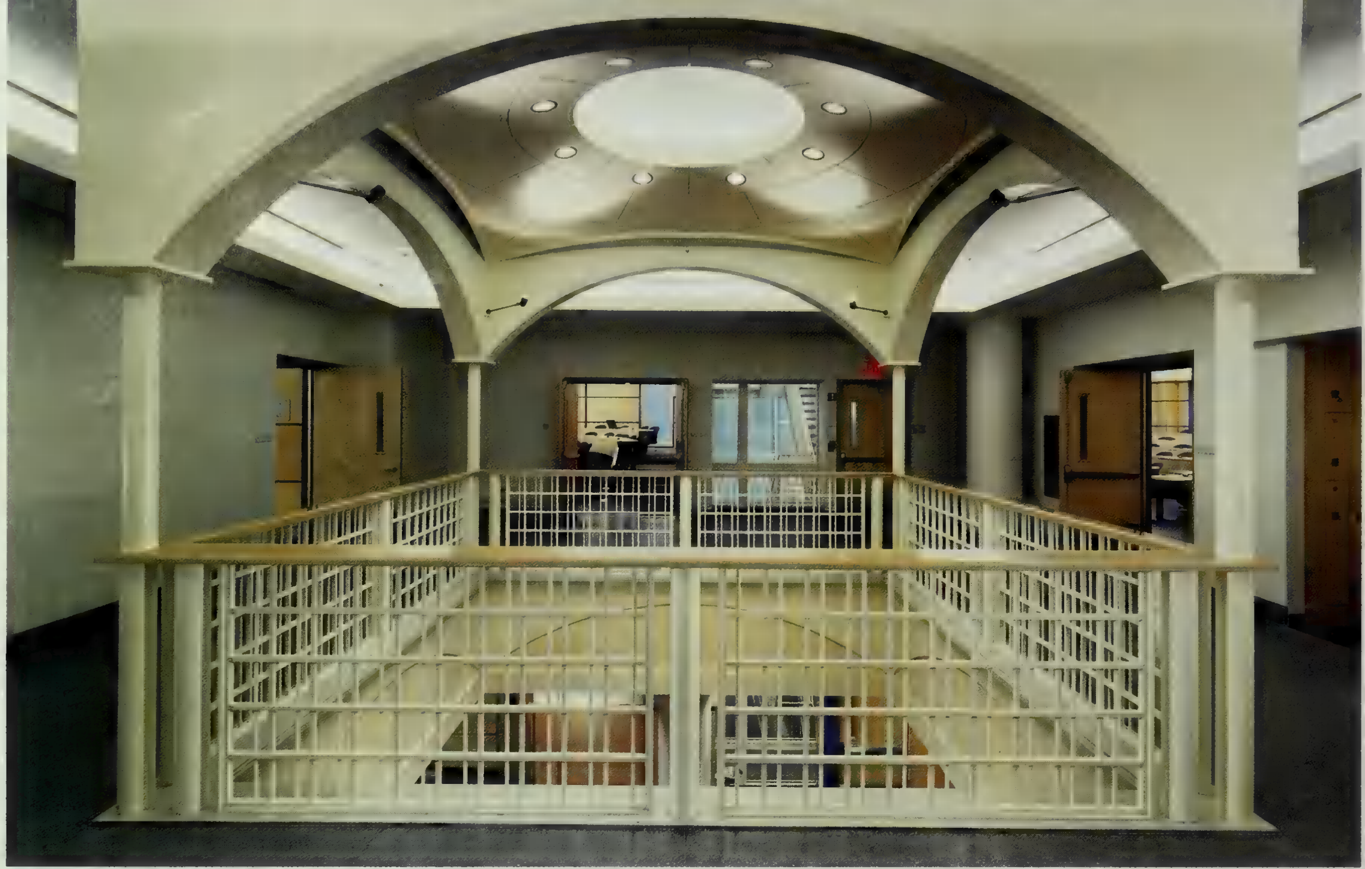
A canted, glass-enclosed stairwell reinforces the corner-site presence and inscribes a dramatic slash of light vertically across one elevation at night. This building marker was created by installing prismatic light guides parallel to the sloping glass on one interior wall of the stairwell, starting at the ground-floor level and extending to the roofline. Three pieces of six-inch-diameter light guide were used, and each section is lighted from its midpoint to each end by a 400-watt metal-halide lamp. "The tubing is internally treated with material that both reflects and refracts light," says project lighting designer Ken Douglas. Because some light is emitted from the sides of the tubes at the same time that light is refracted up and down them, they are evenly illuminated along their lengths. "The column of light also provides all of the necessary ambient light for circulation in the stairwell," says Mintz. "It's both a decorative and functional solution." The architects worked with Mintz and the manufacturer to modify an industrial version of the pipe, fitting it with handsome stainless-steel mounting hardware. Every floor of the building also features an interior window looking onto the stairwell, so the illuminated pipe functions as a light sculpture visible from public areas. The architect custom-designed wrought-iron cages to fit around standard weatherproof sconces mounted on the building. These complement wrought-iron grilles covering first-floor windows.

Project: *William and June Warren Hall, Columbia University, New York City*

Architect: *The Hillier Group—Alan Chimacoff, AIA, director of design, principal-in-charge; Peter Hoggan, AIA, principal; Dan Cummings, Mac Rawley, Debbie Rockey, Peter Weingarten, design team*

Lighting designer: *David A. Mintz, Inc.—David A. Mintz, principal designer; Ken Douglas, project designer*

Consultants: *R.G. Vanderweil Engineers (mechanical/electrical); Robert Silman Associates (structural)*



Five two-story atria organize circulation routes and public spaces in the complex (above). Each oculus is lit with MR16s and coved fluorescents. The main lobby also features acrylic-bowl pendants fitted with dimmable compact fluorescents. Direct/ indirect dimmable compact fluorescents meet multiple requirements in audio-visually sophisticated classrooms.

The building is organized around five, two-story, stacked atria, surrounded by large classrooms, smaller administrative spaces, and offices. The canopy-shaped ceiling of each atrium features an oculus at its nadir. Concealed fluorescents within each oculus add the illusion of depth to their surfaces. Four MR16 fixtures, mounted on "peace pipe" brackets, are positioned to highlight the curve of each canopy. Incandescent PAR38 lamps provide ambient lighting for circulation.

The multipurpose lecture rooms, which accommodate on-site teaching and teleconferencing (sometimes simultaneously) and are connected with Columbia's computer network, require lighting that is both flexible and highly controlled. "The lighting had to be able to spotlight a speaker at the podium and also permit students to take notes while watching the projection screen or their laptops," Mintz says. "That requires multiple presets." An indirect system of dimmable compact fluorescents provides general room illumination. Separately dimmed and switched compact fluorescent downlights are carefully shielded to yield lower levels of illumination without creating glare on video or computer screens. Incandescents highlight the lecturer; their controlled distribution does not interfere with teleconferencing screens. ■

Sources

Recessed downlights, wall washers: *Indy Lighting*

Direct/indirect pendants, recessed linear wall washers: *Neoray Lighting*

Classroom step lights: *Bega Lighting*

Lobby chandeliers: *Winona Lighting*

Low-voltage uplight in oculus: *Modular Lighting*

Exterior uplight: *Kim Lighting*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

Moving onward with high-efficiency fluorescent lamps and high lumen output.

Continuum begins with a classic shallow-profile housing.

Expands with elegant brass plated trims, finials and decorative stem accessories.

Multiple switching creates different lighting levels without costly dimmers.

And is completed with ceiling mounts and wall sconces.

Continuum. Another in a steady stream of advances from SPI.

TEL: 262-242-1420 FAX: 262-242-6414 E-mail: spi@spilighting.com

c UL us LISTED

SPI Lighting Group
SPI
Advent
CIRCLE 137 ON INQUIRY CARD

The **Lamp International** Collection ▪ Designer **Enzo Ciampalini**

The Luna series includes floor, table, chandelier, suspension, wall, and ceiling design with clear, frosted, green and amber glass with crown details of blue, red, green and clear glass. Metal available in 12 finishes

illuminating experiences

CIRCLE 138 ON INQUIRY CARD

233 Cleveland Avenue ▪ Highland Park, NJ 08904 ▪ Phone (732) 745-5858 ▪ Fax (732) 745-9710

Light + Building Show an education

REVIEW: GERMANY'S LIGHT + BUILDING SHOW PROVES THAT, IN SOME WAYS, THE EUROPEANS ARE STILL A STEP AHEAD.

By Charles Linn, AIA

Using a minimalist approach to marketing their products at Light + Building, companies such as Iguzzini Illuminazione SPA create a subtle association between brand and image.

Until this year, the largest lighting trade show on earth was an annual event in Hannover, Germany, and it was big. Walking it once, just up and down the aisles, could easily take one exhausting day. Now the Germans just did Hannover one better. Today, because building is all about the integration of systems, they moved the lighting show to the fairgrounds in Frankfurt and added electrical technology, building automation, air conditioning, and other architectural technologies. The resulting event, which ran from March 19 through 22, was a smash. Eighteen hundred exhibitors showed their wares to 100,000 visitors. Walking the lighting exhibition, an American designer familiar with Lightfair would immediately be struck by the immensity of this show (I got lost) and by the elaborate design of its booths. The size of the show makes good sense, however, considering that the European manufacturers have long used trade shows to reach customers. These exhibitions appeal to a marketplace that is normally hard to reach because it is spread throughout a dozen countries over an entire continent. But the real knockout there was the quality and imagination put into the design of the lighting equipment and the quality of its production. Unless an American building owner was especially interested in having these kinds of products installed in a building, few of the products would ever see the shores of this country. It brings up the age-old question: What is the deal with these Europeans and design?

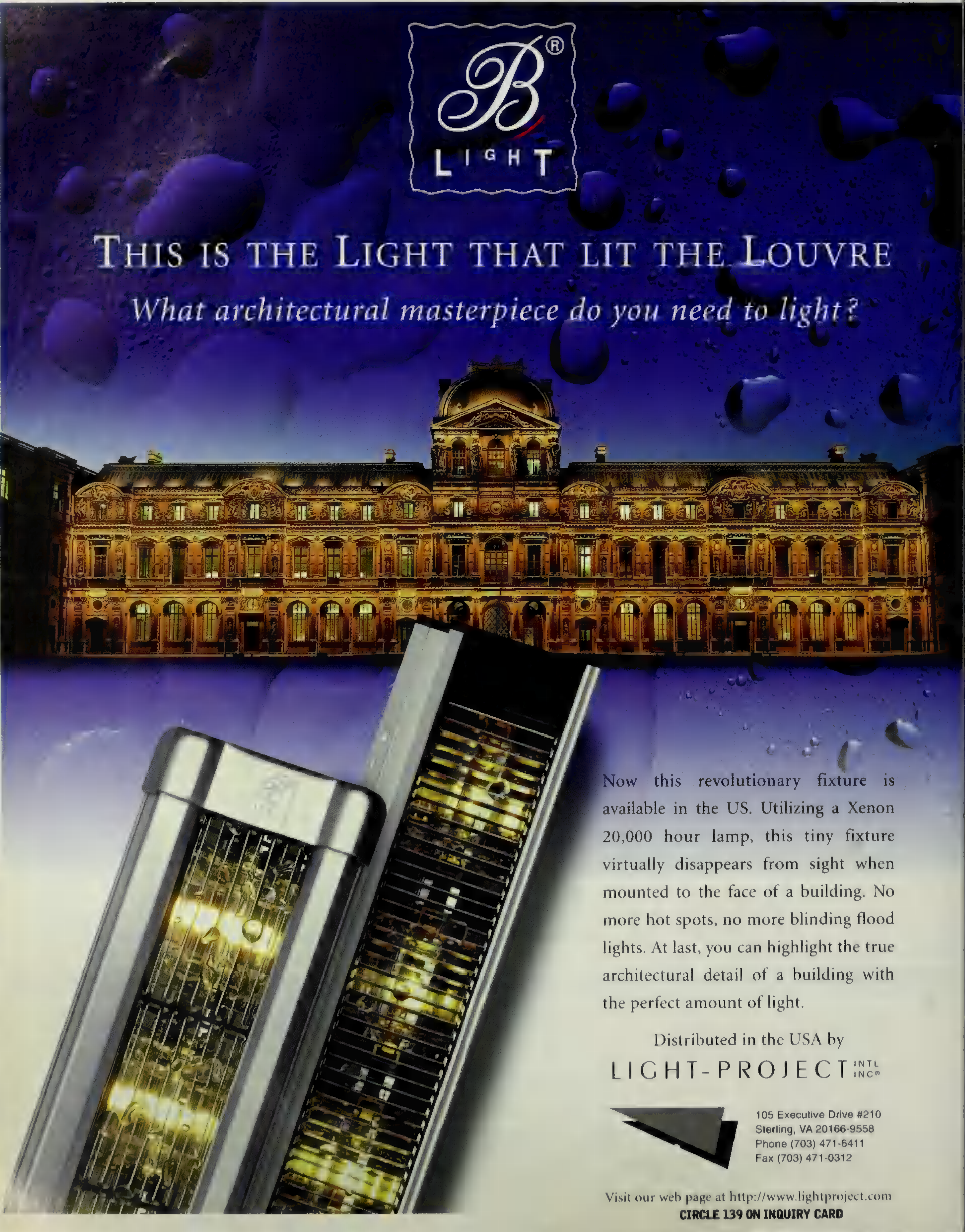
Allison Craig, marketing communications manager at Zumtobel Staff Lighting, an Austrian company operating in partnership with a company in Highland, New York, says, "We used to see products at the Hannover Fair three to five years before we saw them here, because Europeans became concerned about energy efficiency first. There is also a higher market demand there for quality." This statement presents a paradox, particularly in Europe, where there are fewer independent designers dedicated to lighting than in the States (manufacturers there frequently provide lighting design services along with fixture packages). If low price is the driver, why offer fittings of such high quality?

Lee Prince, a principal at Light & Design Associates in Kent, England, says that this custom is changing throughout Europe, and he credits owners for catching on to the value of good lighting. "Here in Britain and other parts of Europe, decision makers have realized that good lighting adds value to a development, particularly in key areas such as lobbies, exterior landscaping, facade, and reception rooms. These are the 'point-of-purchase' areas, where the potential client really decides whether or not to accept a leasing deal. Developers have learned from bad experiences." In Britain's recovering economy, developers want to lease space at the highest possible rates, even though it is hard to distinguish one developer's building from another. Prince comments that high-quality lighting and equipment are being used to good effect to distinguish one building from its competing properties. "Designers can do it at marginal cost, and, after all, a building has to be lit. Why not do it properly?"

There is also the matter of product-profit margin versus volume, an idea that may have been lost here as so many U.S. lighting manufacturers consolidated into megafirms over the last 20 years. Midsize European firms—and there are dozens—often offer highly designed products aimed at grabbing the specifier market because these items can be sold at a higher profit. And, because the market in Europe is much smaller, competition among these manufacturers is quite fierce. This is survival of the cleverest.

Gene di Nicolais, director of international marketing for Lutron, which is based in Coopersburg, Pa., but sells its products all over the world, notes, "Marketers in Europe are more brand- and image-focused and much more conscious and expert in the craft of brand building and marketing by association to the brand—generally, an upscale association. They try to associate their brand with high quality and cutting-edge design." By contrast, he continues, "American lighting manufacturers tend to be more gizmo-driven. They look for quick positioning through technical innovation. Europeans depend on subtle marketing to create a long-term identification between the brand and the product."

At Light + Building, this strategy was certainly not lost on Iguzzini Illuminazione SPA, an Italian lighting manufacturer. Only three fixtures were displayed in their booth. Unforgettable. If one can take anything away from the experience of going to a show like this, it would be that other cultures have a lot to offer and we have a lot to learn. ■



B® LIGHT

THIS IS THE LIGHT THAT LIT THE LOUVRE

What architectural masterpiece do you need to light?

Now this revolutionary fixture is available in the US. Utilizing a Xenon 20,000 hour lamp, this tiny fixture virtually disappears from sight when mounted to the face of a building. No more hot spots, no more blinding flood lights. At last, you can highlight the true architectural detail of a building with the perfect amount of light.

Distributed in the USA by

LIGHT-PROJECT INTL INC®

105 Executive Drive #210
Sterling, VA 20166-9558
Phone (703) 471-6411
Fax (703) 471-0312

Visit our web page at http://www.lightproject.com

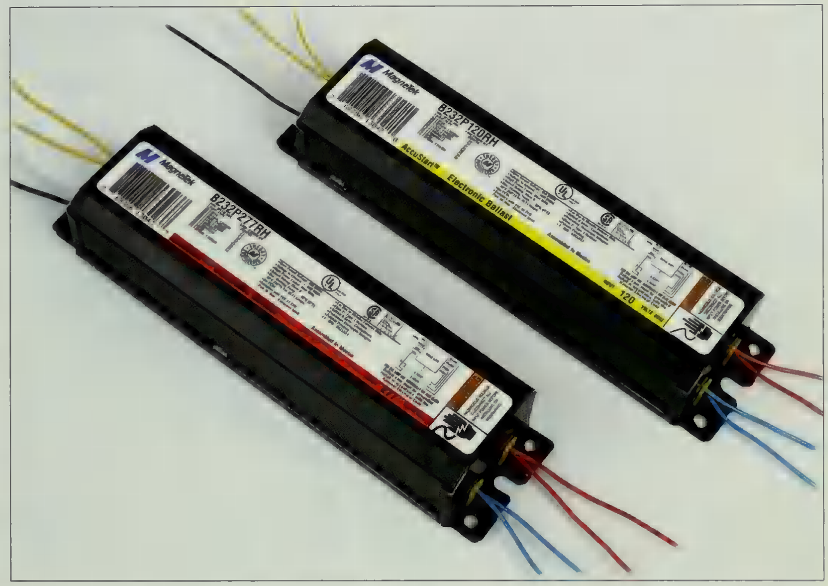
CIRCLE 139 ON INQUIRY CARD

Soft-start ballasts meet thick-phosphor lamps

NEW BALLASTS SOLVE PREMATURE FLUORESCENT LAMP-BURNOUT BLUES. CAN THEY BE IN LONG-LIFE LIGHTING SYSTEMS?

By Lindsay Audin

Imagine a new fluorescent lamp and ballast combination so durable that it would last as long as the fixtures containing it. Such an innovation could allow light fixtures to be manufactured with lamps sealed inside them so that relamping and the need to clean lamps and reflectors would be a thing of the past.



Soft-start ballasts allow fluorescent lamps to go through up to 40,000 on-off cycles before they burn out. They are ideal for applications where occupancy sensors may turn lights on and off many times over the course of a day.

Better ballasts: a solution to a different problem

The need for better ballasts showed up in the 1980s and '90s—not because inventors wanted to break lamp-life records, but because designers and owners started installing occupancy sensors to save energy. In settings where frequent on-off cycling occurred, fluorescent lamps were failing long before manufacturers' ratings said they should. Occupancy sensors were indirectly responsible for the problem, as they turned the lights off and on dozens of times a day in a place like a washroom or storeroom. But the true source of the problem was the ballasts. The more often the lights were cycled, the more wear and tear they inflicted on the fluorescent lamps' electrodes, and the sooner they failed. The problems were significant enough to convince many designers to shy away from using sensors to shut off unused lighting. This wasn't possible in some states where building codes (California and New York, for example) require the use of sensor controls.

Designers also thought that electronic rapid-start ballasts damaged the lamp's electrodes less than other types, like magnetic rapid-start and electronic instant-start. Scientists at the Lighting Research Center (LRC) began to study the compatibility of lamps and ballasts using an obscure factor called Rh/Rc ratio—hot-electrode resistance divided by cold-electrode resistance. They found that manufacturers offered so many different models of ballasts that no single type—not even magnetic rapid-starts—proved to be consistently less damaging to lamp electrodes than any other.

Using what the LRC scientists had learned about Rh/Rc ratios, ballast designers working for ballast manufacturers such as Magnetek and Motorola (now part of Osram Sylvania) introduced "program-start" (also known as "soft-start") ballasts. These products have high Rh/Rc ratios, use a different power-wave form than conventional ballasts, and greatly reduce a phenomenon called emissive sputtering, which degrades the lamp electrodes, and is the major cause of fluorescent lamp burnout. The effect of emissive sputtering is easy to observe—the lamp ends become blackened. Before this technology was developed, a room full of lamps, with rated lifetimes of 20,000 hours each, would tolerate about 7,000 to 10,000 starts before half the lamps burned out. That figure has now been increased to over 40,000 starts (see graph, following page).

The ultimate long-life lighting system's missing piece?

Soft-start ballasts do such a good job of extending the life of lamps with frequent on-off cycles that when a lamp is operated with more typical 8- to 12-hour-long cycles, the phosphors of the lamp may wear out before its electrodes do.

But this problem was solved about the same time soft-start ballasts were introduced—new thick-coat phosphor lamps became available that maintain light output at a much higher level at the usual point of burnout. General Electric's Starcoat lamp series, for example, boasts lumen maintenance of over 92 percent when a normal fluorescent lamp would have burned out. Based on the Starcoat lamp's lumen-depreciation curve (a graph that indicates how much light output the lamp will lose as it is used), this lamp's high light output remains nearly constant well beyond a normal lamp's 20,000-hour-rated life. Because such lifetimes are based on standards

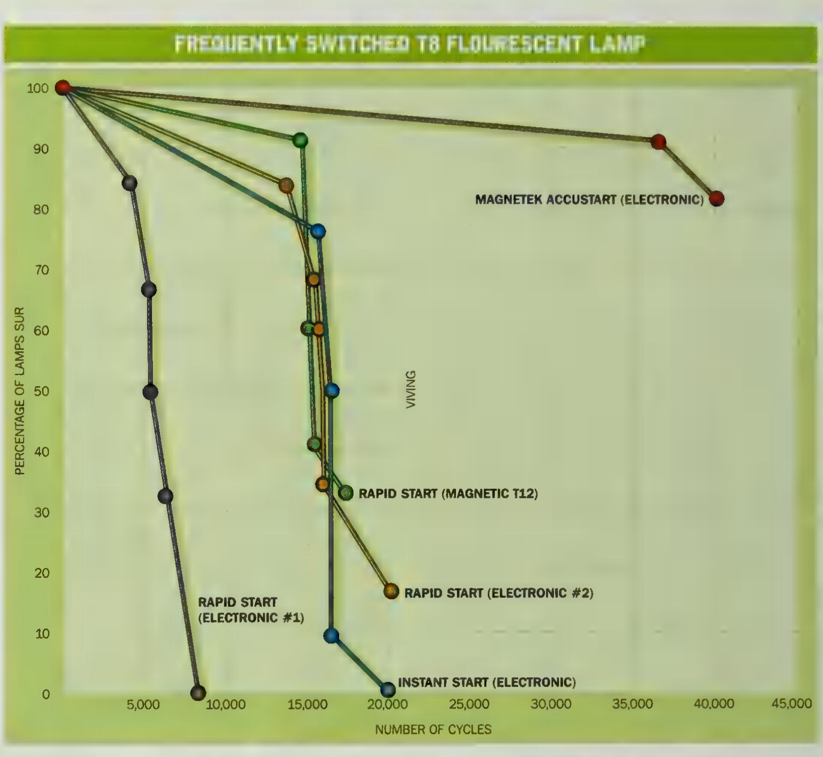
Lindsay Audin is the president of Energywiz, Inc., an energy and technology consulting firm (www.energywiz.com).

using magnetic rapid-start ballasts, much greater lamp lifetimes with very good lumen maintenance may occur when used in conjunction with the soft-start technology.

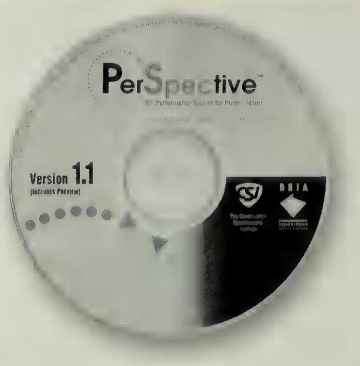
None of the major lamp manufacturers would go on record as saying that lamps operated on soft-start ballasts would last any longer when used with normal 8- to 12-hour on-off cycles than they would under the heavy cycling caused by occupancy sensors, all saying that there is no evidence now to support this logic. "Although we are researching this subject as we speak," says Dwight Kitchen, Osram Sylvania's manager of commercial engineering, "you have to consider that some electrode degradation is occurring whenever a lamp is being operated, even with long burn times." (One ballast manufacturer did point out that such drastic extensions of lamp life could harm manufacturers who depend on lamp burnouts for their livelihoods).

What lies ahead

Undoubtedly, these ballast and lamp technologies will continue to improve. That's what makes all the more real the possibility that one day sealed luminaires will arrive on the job already lamped, each boasting a digital LCD clock showing the number of hours remaining before it's time to send them back to the factory to be rebuilt into new ones. It is already possible for a fixture that's failing to send a signal through its power line directly to the facility management department. ■



This chart shows how 20-minute cycles of 15 minutes on and 5 minutes off affect the life of ordinary T8 fluorescent lamps. One-hundred percent of lamps started by one type of electronic rapid-start ballast burned out after only 7,000 starts. Using electronic soft-start ballasts, 92 percent of lamps were still operating after 40,000 starts.



Don't reinvent the wheel...
...we've already smoothed out the bumps for you.

Do you chisel out your RFPs and proposals by hand every time?
Streamline the process using Uniformat and our master database of pre-formulated easy-to-edit statements. Our clear performance criteria, hard numbers, and phased substantiation requirements offer a smooth ride on your next design-build project.

The power and flexibility of a database, as easy to use as word processing.

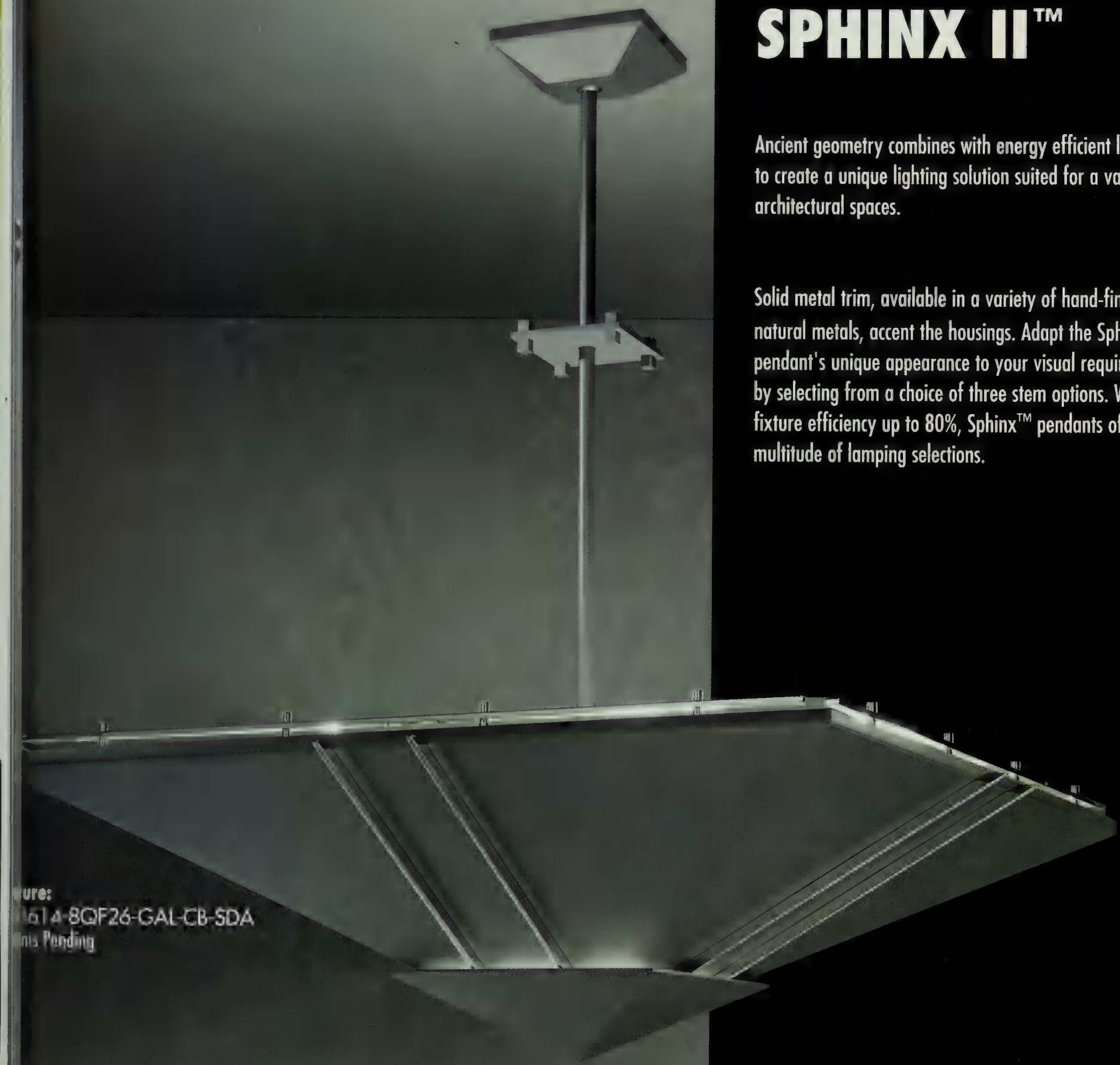
The Construction Specifications Institute
DBIA
DESIGN-BUILD INSTITUTE OF AMERICA

PerSpective™
The Performance System for Project Teams
A CSI/DBIA JOINT VENTURE PRODUCT
(PEAR)

For your 30-day free trial of PerSpective™, call toll-free 1.877.893.0896 or visit www.PerSpectiveNet.com

CD runs on Microsoft® Windows 95, 98, or NT

CIRCLE 140 ON INQUIRY CARD

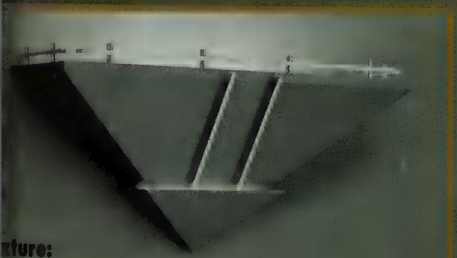


ure:
614-8QF26-GAL-CB-SDA
nts Pending

SPHINX II™

Ancient geometry combines with energy efficient lamping to create a unique lighting solution suited for a variety of architectural spaces.

Solid metal trim, available in a variety of hand-finished natural metals, accent the housings. Adapt the Sphinx II™ pendant's unique appearance to your visual requirements by selecting from a choice of three stem options. With a fixture efficiency up to 80%, Sphinx™ pendants offer a multitude of lamping selections.



xture:
B6160-2QF26-GAL-CB

compliant sconces complement the pendant series.

For more information, contact:

VISA LIGHTING
An Oldenburg Group Company

8600 West Bradley Road • Milwaukee, Wisconsin 53224
414-354-6600 • Fax: 414 354-7436
www.visalighting.com

1-800-788-VISA

CIRCLE 141 ON INQUIRY CARD

BRUCK

LIGHTING SYSTEMS

FLEX-LINE, the intelligent track with memory

The track flexes to allow for curved or linear installation, and with two independent electrical circuits it is listed for a total of 600 watts.

FLEX-LINE is one of seven different systems manufactured by **BRUCK LIGHTING SYSTEMS.**

Booth 101

Lightfair International 2000

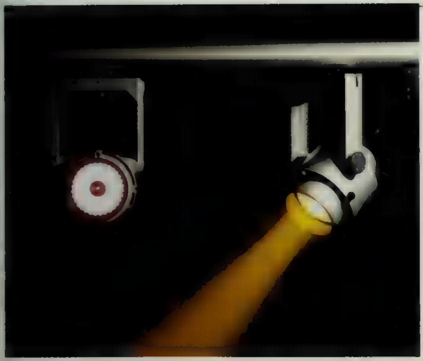
714 424-0500 Fax 714 424-0505 Costa Mesa, California www.brucklighting.com

CIRCLE 142 ON INQUIRY CARD

Lighting Briefs

► Nesting sconce

The Scala-3 sconce, with its trio of off-kilter nesting diffuser rings, provides a touch of whimsy in hospitality locations as well as the home. Specifiers can choose rings of etched opal acrylic or Aramid, and incandescent, fluorescent, or LED light sources. The sconces are UL-listed, and ADA compliant. 800/755-0471. Charles Loomis, Inc. Kirkland, Wash. **CIRCLE 200**

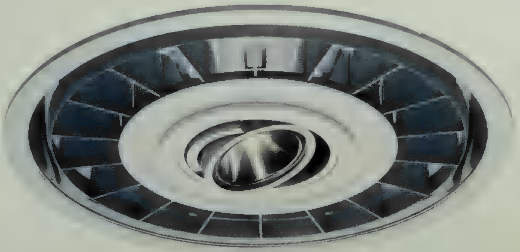


▲ Projector series

The experience acquired by Erco Lighting in their development of compact lighting projector fixtures for the Guggenheim Museum in Bilbao—specifically, long beam throw photometrics, which allow a fixture to accent light an object 150 feet away—has been incorporated into the Stella series, designed by Franco Clivio. All of the movable parts of a projector can be locked into place—even positioning of the lens, and the rotation and tilt of the fixture. Cross baffles and anti-dazzle attachments ensure visual comfort. Specifiers can choose between capsule halogen and compact metal halide lamps. 49/2351 551 345. Erco, Lüdenscheid, Germany. **CIRCLE 202**

▼ Downlight for circular T5 lamp

The CircLet is Wila Lighting's new multifunctional downlight. It uses the new 300-millimeter-diameter, 55-watt, circular T5 fluorescent lamp. The modular construction of the fixture allows the open space in the center of the fixture to be used with several different devices: an accent light, speaker, video camera, sprinkler head, or smoke detector can be installed. 714/546-8999. Wila Lighting, Costa Mesa, Calif. **CIRCLE 204**

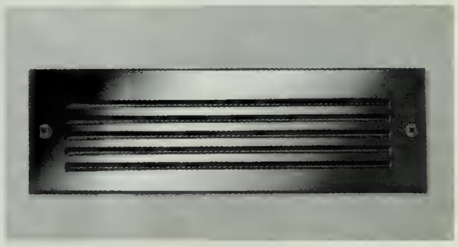


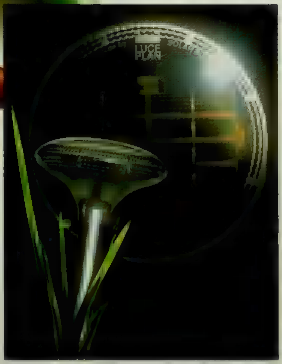
▼ Integrated direct/indirect

Aerial, a surface-mount direct/indirect luminaire, takes advantage of research done by Metalux, which determined that specifiers wanted a T5 fluorescent fixture that would provide an excellent luminous environment and could be integrated into a room's architecture. The company teamed with Bubble Design of San Francisco to develop the new fixture. It is 2 ½-inches deep, 16-inches wide and comes in 2- or 4-foot lengths. 912\924-8000. Metalux, Cooper Lighting, Elk Grove Village, Ill. **CIRCLE 201**

▼ Wall luminaire line

The number of locations that demand a recessed wall luminaire are innumerable: steps, stairs, ramps, aisles—anywhere that guidance or security lighting may be needed. Bega has introduced a comprehensive line to accommodate almost any requirement. The luminaires come with durable $\frac{3}{16}$-inch-thick stainless steel faces—with louvers cut into the material at a 45-degree angle. They are available with compact fluorescent lamps in three sizes, either vertical or horizontal slots, and are UL-listed for wet locations. 805/684-0533. Bega, Cupertino, Calif. **CIRCLE 203**





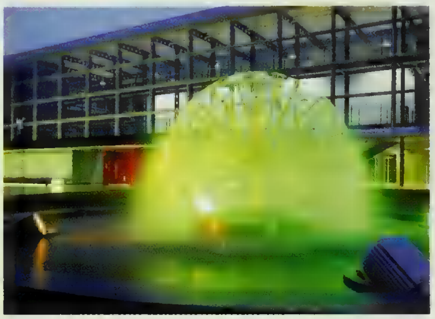
▲► Award winners

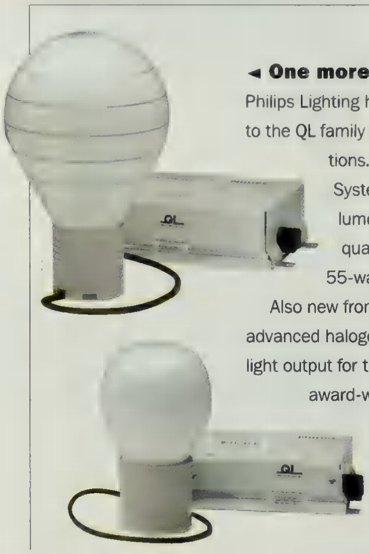
The Chicago Museum of Architecture and Design has given Luceplan an unprecedented four awards at once for its light fixture designs. One of the awards went to its Pod Ens (above), pod-shaped indoor/outdoor lamps that can be suspended, or pole- or ground-mounted. A second of the four awards went to the Solar Bud Walkway lamps, solar-powered pathway lights that emit a red glow at night. 212/989-6265. Luceplan USA Inc., New York City. **CIRCLE 205**

Lighting Briefs

▼ Outdoor color-changers

A new fountain outside the headquarters of Martin Professional lighting's headquarters in Denmark is lit by four of the luminaires from the firm's own product line, the Martin Exterior 600 color changers. The fixtures—which the manufacturer says are durable enough to have withstood the typical sub-zero temperatures of Scandinavia, and an atypical Scandinavian hurricane as well—house a CMY color-mixing system and are capable of producing a range of color combinations. The fixtures have a built-in light sensor switch to turn them on in the absence of daylight. 45/8740 0000. Martin Professional, Aarhus, Denmark. **CIRCLE 206**





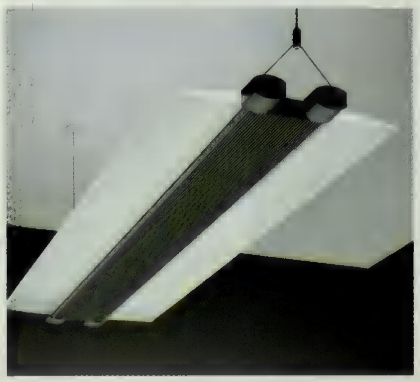
◄ One more induction lamp

Philips Lighting has added the 165-Watt System (shown) to the QL family of long life electrodeless lighting solutions. The introduction of the QL 165-Watt System allows Philips to offer double the lumens with the same 100,000 hours of high quality white light. The QL family includes a 55-watt, 85-watt, and now a 165-watt system. Also new from Philips is the MasterLine ES IRC, an advanced halogen infrared lamp that delivers increased light output for the same energy consumption, and the award-winning MasterColor Metal Halide collection. 732/563-3455. Philips Lighting, Somerset, N.J. **CIRCLE 207**

► Multiple diffuser options

Davis/Muller Lighting's Element Series S5510 sconce is shown here with a perforated diffuser, but it is also available with a frosted glass or white acrylic diffuser. All of the ADA-compliant designs can be complemented with matching pendants and surface mounts. Davis Muller fixtures are available in numerous sizes, lamping options, and finishes. 888/DAV-MULL. Davis/Muller Lighting, Pawtucket, R.I. **CIRCLE 208**

▼ Direct/indirect phenomenon



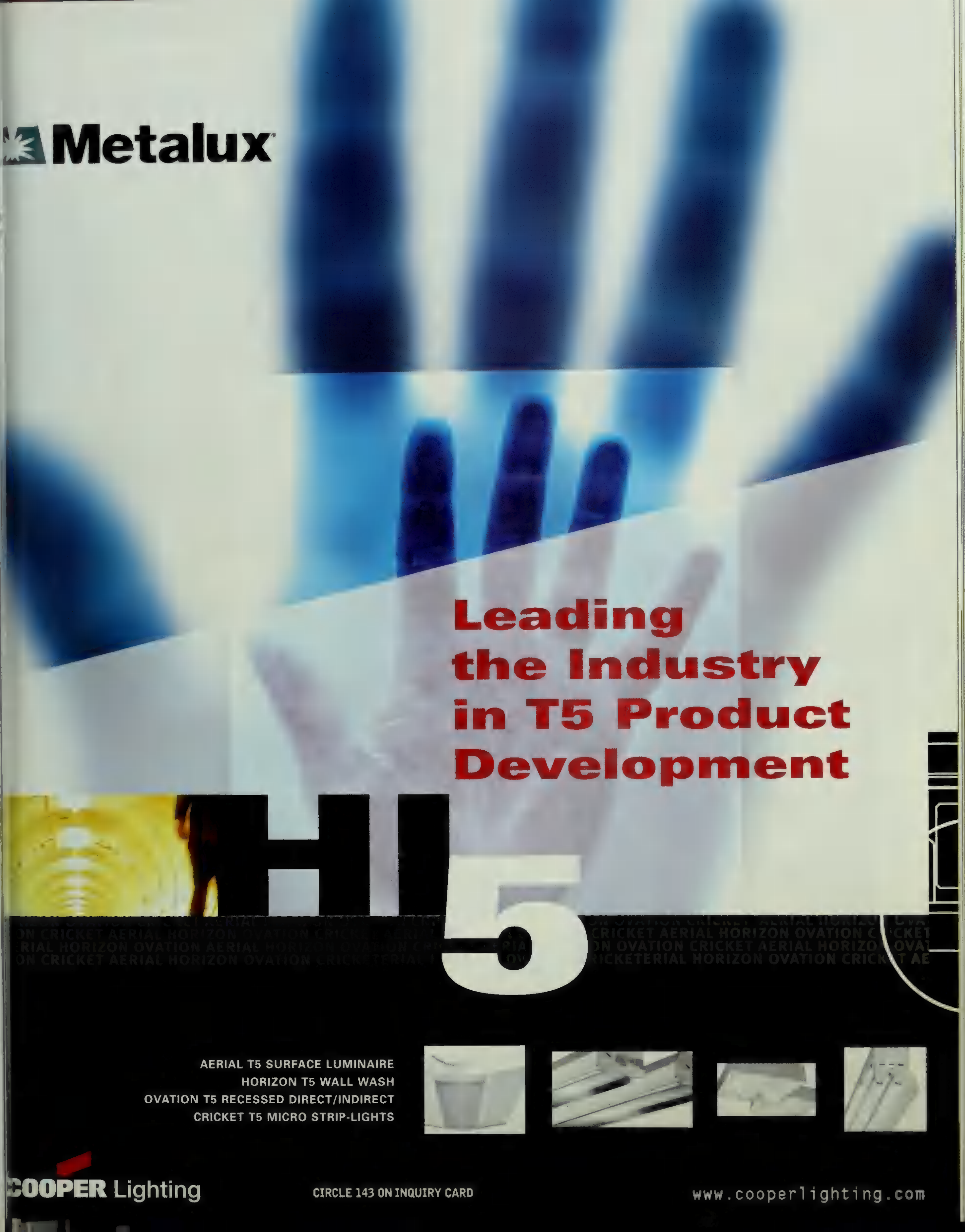
No matter where it is positioned in a room, the Orea's patented microprisms will direct low-glare light to the work plane that is suitable for display terminals and flat screen displays, according to Zumtobel Staff. Orea, based on "Waveguide" technology, uses a T5 fluorescent lamp. The ballast and hardware are concealed in the rails that run down the center of the fixture. A two-volume product binder is available. 800/932-0633. Zumtobel Staff Lighting, Highland, N.Y. **CIRCLE 209**

▼ Blast from the future

ColorBlast is a digital lighting fixture designed to wash interior and exterior walls with rich, saturated colors and color-changing effects. ColorBlast utilizes Color Kinetic's patented Chromacore technology to generate over 16.7 million colors and color-changing effects via microprocessor-controlled red, green, and blue LEDs. ColorBlast's compact design projects a 24-degree angle soft-edge beam of light, which washes interior and exterior walls up to 10-feet high with color. Equipped with an industrial-grade constant torque hinge, the fixture can be mounted inside or outside, to a wall, ceiling, or floor. ColorBlast can run an assortment of pre-programmed colored lighting shows. 888/FULL-RGB. Color Kinetics Inc., Boston. **CIRCLE 210**

◄ Bird-like lamps

Minyas is a new light from ClassiCon sold exclusively through Luminaire. Minyas is a height-adjustable floor lamp with a rotating lampshade of white opaline glass. The fixture's frame is made of chromium-plated steel tube, and the base is powder coated in black. The lamp uses a 100-watt halogen bulb. The light will be available June 1 at Luminaire's showrooms in Chicago and Coral Gables. 312/664-9582. Luminaire, Chicago. **CIRCLE 211**


Metalux
Leading the Industry in T5 Product Development
HI5
CRICKET AERIAL HORIZON OVATION

AERIAL T5 SURFACE LUMINAIRE
HORIZON T5 WALL WASH
OVATION T5 RECESSED DIRECT/INDIRECT
CRICKET T5 MICRO STRIP-LIGHTS

COOPER Lighting

CIRCLE 143 ON INQUIRY CARD

www.cooperlighting.com

Lighting Briefs

▾ Slimmer profiles

The new slim-profile Sylvania Pentron T5 lighting systems can save energy with better lumen output and a thinner lamp, providing ▪ highly concentrated light source that can enhance the performance of the luminaire. One Pentron HO T5 lamp produces almost twice the light output of a T8 lamp. They are designed to meet a variety of lighting applications, including commercial, hospitality, and retail. 978/777-1900. Osram Sylvania, Danvers, Mass. **CIRCLE 212**

► New twist in track lighting

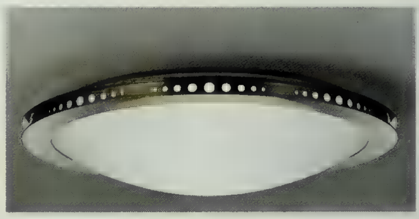
Flex12, Juno Lighting's new decorative low-voltage track lighting system, features geometric forms and matte silver finishes. Flex12 can be curved in the field and offers an infinite number of installed configurations. The light is ideal for high-end residential, retail boutiques, department stores, galleries, museums, and exhibits. 847/827-9880. Juno Lighting Inc., Des Plaines, Ill. **CIRCLE 213**

► Recessed incandescents

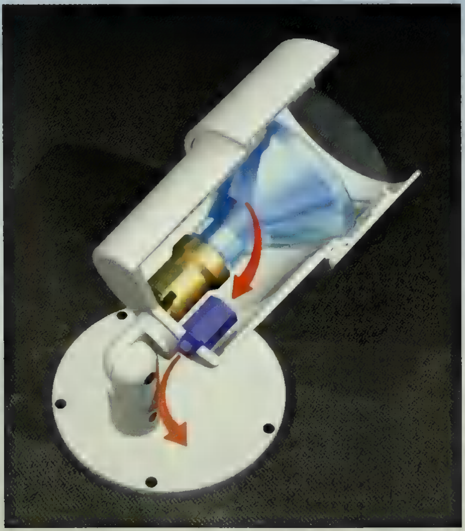
Calculite Evolution recessed incandescent lighting offers a complete selection of general downlight, wall wash, adjustable accent, and wet location reflector trims that incorporate a wide variety of incandescent and low-voltage lamp choices. Calculite Evolution downlights are available in 4-inch and 6-inch apertures to ensure useful lumen output of different ceiling heights. 800/215-1068. Lightolier, Fall River, Mass. **CIRCLE 214**

▾ Metal band

The T-9025 ⅛-inch surface mount fixture from Estiluz comes with a decorative metal band available in satin nickel. Lamp options for the fixture include 300 watt T-3 Quartz halogen or 2x13 watt compact fluorescent. The light comes with a glass diffuser of white opal or slumped glass. The light is also available in a 12 ¼ inch size (model T-9022) and in a 16 ⅛-inch-diameter size (model T-9024). 201/641-1997. Estiluz Inc., Moonachie, N.J. **CIRCLE 215**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info



The ACV™ Valve System
(patent pending)

The ACV™ Valve System (Anti-Condensation Valve) utilized in B-K Lighting's PAR30/PAR38 fixtures expels moisture-laden air from the hermetically sealed optical compartment, creating an internal vacuum and eliminating the possibility of condensation. Leading industry organizations have awarded the ACV™ Valve System for it's unique and significant advancement to the art and science of lighting. Contact us today for more information.

PROGRESS REPORT COMMITTEE IES NEW PRODUCT ADVANCEMENT

ADEX

DESIGN BEST OF SHOW

LIGHTFAIR INTERNATIONAL Exterior Products Innovator Award

See us at Lightfair 2000, booth number 518.

B-K LIGHTING... the number one choice in specification-grade, outdoor architectural lighting.

7595 N. Del Mar Avenue ▪ Fresno, CA 93711 • (559) 438-5800 Fax: (559) 438-5900 ▪ email: info@bklighting.com • web: www.bklighting.com

CIRCLE 144 ON INQUIRY CARD

You had to expect it would be Iris. The pioneer of spec-grade luminaires for the home now leads the way with a true spec-grade *remodel* fixture for the home.

The unit's adjustable platform accommodates ceiling thicknesses up to 1½", always assuring proper lamp position. Variable lamp adjustment (up to 35° elevation, 361° rotation) with Center Beam Optics maximizes light output. And because the remodeler's performance is locked in, relamping never alters aiming.

This luminaire's platform cuts labor time. Its precise fit, featuring a narrow, easy-slip frame sized to a 4½" hole-saw, eliminates call-backs. Transformer placement and steel retention springs guard against unit tear-out. Two torsion springs keep the element tight to the ceiling, preventing light leaks.

Best of all, the remodeler shares family aesthetics with all Iris products.

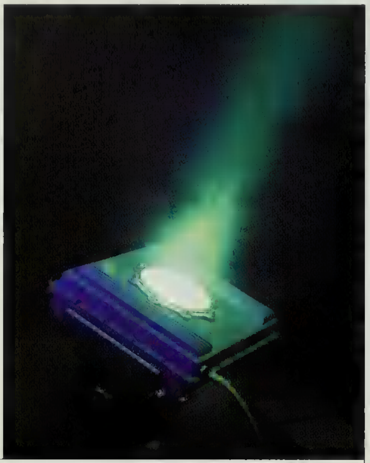
Iris...a distinctive achievement in rennovation style.

IRiS™
LIGHTING SYSTEMS

COOPER Lighting
CIRCLE 145 ON INQUIRY CARD

www.cooperlighting.com

Lighting Briefs

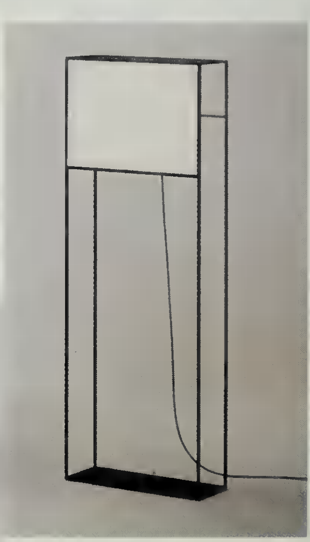


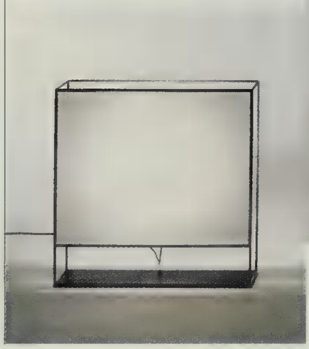
► From the deep

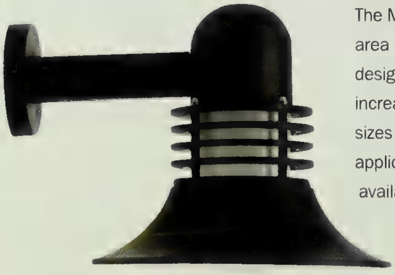
Morpheus Lights claims that the WetFader is the first and only CYM color-mixing fader to be able to withstand any environment, from the scorching heat of the arid desert to the underwater depths of both salt and fresh water. The housing is made from sealed cast bronze or aluminum. 877/MORPHEUS. Morpheus Lights, Cedar Park, Tex. **CIRCLE 216**

▼ Italian space

The Spazio 1 and Spazio 2 floor lamps, designed by Carlo Tamborini for Pallucco Italia, are additional examples of new Italian furnishings available exclusively through Luminaire. Each lamp features a steel frame with an epoxy powder finish in a matte aluminum and matte black color. The lamp element is manufactured in a polycarbonate translucent white color, and uses a 250-watt halogen bulb. The dimmer has a built-in safety fuse. Spazio 1 and Spazio 2 will be available June 1 at Luminaire's showrooms in Chicago and Coral Gables. 312/664-9582. Luminaire, Chicago. **CIRCLE 217**



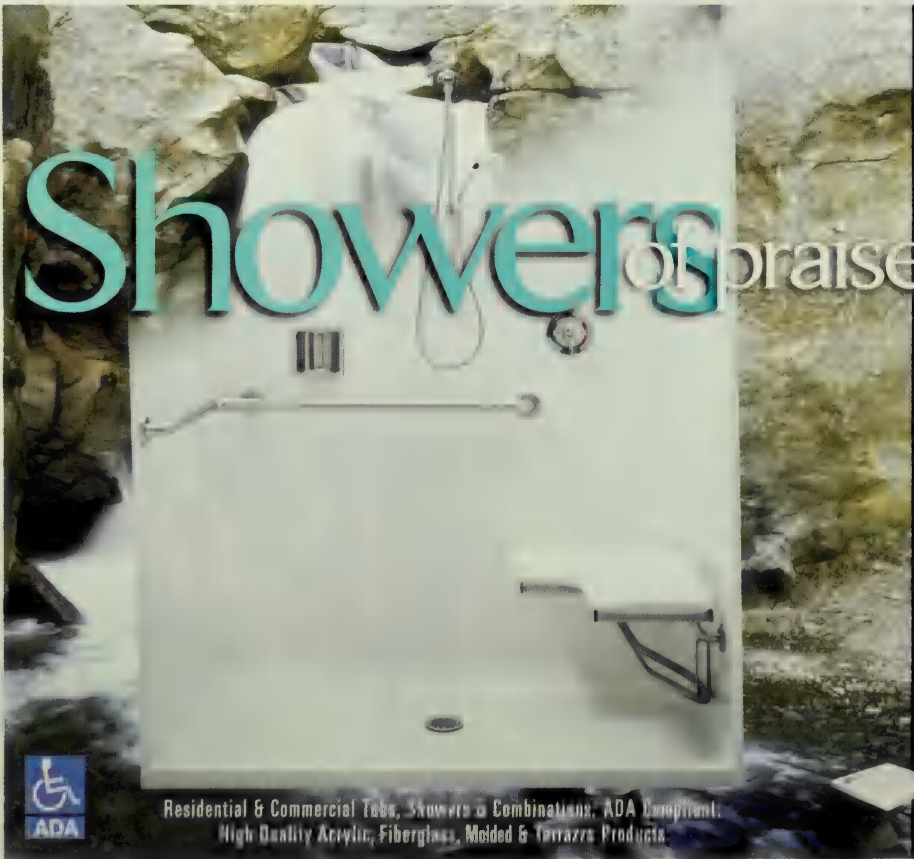




◄ Street smarts

The Metro Series features an open light area with solid rings and a modern design for good glare control and increased ambient light. Available in two sizes for pole, wall, and pendant mount applications. Corresponding bollard also available. 414/431-2353. Phoenix Products Company Inc., Milwaukee. **CIRCLE 218**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info


Showers of praise
ADA
Residential & Commercial Tubs, Showers & Combinations. ADA Compliant.
High Quality Acrylic, Fiberglass, Molded & Terrazzo Products

The all-in-one, ADA compliant, molded fiberglass shower comes with all the hardware you see. Plus quality you don't see. Because our thicker fiberglass material means these shower floors won't sink when you step into them. So you get a product that's more durable and resilient than other units. All Florestone products are available for immediate delivery anywhere in North America. Call to request a copy of our full-line specifications binder and download CAD files from our website. Florestone...for those who don't take showers lightly.

800.446.8[illegible]77
FAX: 559.661.2070
2851 Falcon Drive
Madera CA 93637-9287
www.florestone.com

FLORESTONE
Quality Shower & Bath Products Since 1947

CIRCLE 146 ON INQUIRY CARD

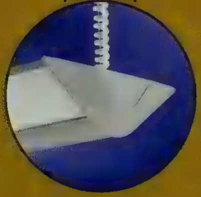
INSPIRED ILLUMINATION

ALERA™
LIGHTING

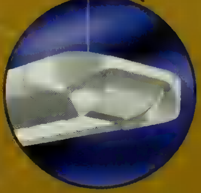
AN INDIRECT WAY TO EXPERIENCE LIGHT

Indecon

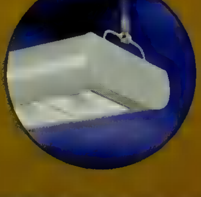
Avalon



Contura



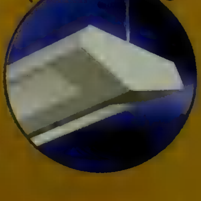
Solaris



Inspired lighting puts
the finishing touch in your
workspace. The highest quality
design, made affordable. That's
Alera Lighting. Your direct
source for indirect lighting.

CIRCLE 147 ON INQUIRY CARD

Maxim T5 HO



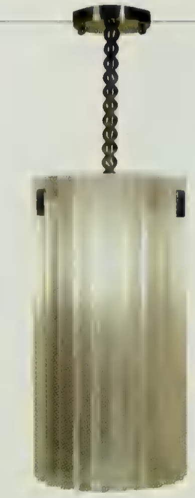
ALERA LIGHTING · 3808 NORTH SULLIVAN · SPOKANE, WA 99216 · 509.921.8300 · FAX 509.921.8360

LIGHTING CORPORATION OF AMERICA

Lighting Briefs

▼ T5 HO dimming ballast

Lutron has introduced a Hi-lume electronic fluorescent dimming ballast that provides one percent architectural dimming for 54-watt, T5 High Output linear fluorescent lamps. Its physical cross section of 1-inch-high by 1.18-inches-wide makes it ideal for one- and two-lamp profile fixtures. 800/523-9466. Lutron Electronics Co. Inc., Coopersburg, Pa. CIRCLE 219

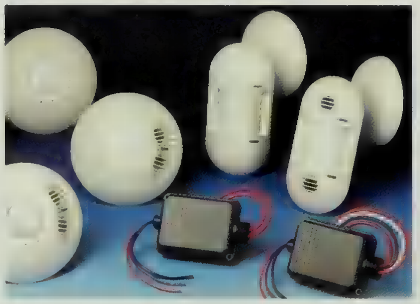


▲ Fluted pendant

The Opus pendant is composed of hand-cast Cytron, a clear resin polymer that looks and feels like glass. Opus features a fluted edge column detail and is available in 13 light-reactive Cytron colors to complement any interior landscape. 718/786-5920. Sirmos, Long Island City, N.Y. CIRCLE 221

◄ A display of color

ConstantColor CMH lamps provide a crisp, "halogen-like" light that offers excellent color rendering ideal for retail lighting. The lamps feature a new advanced three-piece arc tube design that allows for a 96 percent survival rate at 4,000 hours. 800/GE-LAMPS. GE Lighting, Cleveland. CIRCLE 220



◄ Commercial-grade sensors

Leviton Manufacturing has introduced a new line of commercial-grade occupancy sensors featuring a self-adjusting technology that analyzes real-time occupancy patterns to continually adjust delayed off-times and sensitivity for maximum energy efficiency. The products include: passive infrared, ultrasonic, and state-of-the-art multi-technology occupancy sensors that integrate passive infrared and ultrasonic sensing in the same device. 800/367-5424. Leviton Manufacturing Co. Inc., Leviton, N.Y. CIRCLE 222

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

The Concern For Fire Safety In Commercial Structures.

One Answer is PYRO-GUARD® Interior Fire Retardant Treated Wood.

PYRO-GUARD has a low rate of fuel contribution and heat release, and it maintains *structural integrity* longer than other building materials such as steel. Consequently, fire damages and repair costs are minimized, resulting in reduced insurance rates.

- Recognized by all building codes.
- Reduces flamespread from Class C to 25 or less (Class A).
- Pressure impregnated for uniform protection.
- In-plant third party quality control.
- Each piece is UL labeled.

PYRO-GUARD®
FIRE RETARDANT TREATED WOOD
Hoover Treated Wood Products, Inc. ▪ P. O. Box 746 ▪ Thomson, GA 30824
For Technical Information Call: 1-800-TEC-WOOD

http://www.FRTW.com • E-mail hoover@frtw.com • Fax: (706) 595-1326

CIRCLE 148 ON INQUIRY CARD

For a complete specification grade architectural lighting catalog, please contact us at 262-242-1420 or spi@spilighting.com

SPI Lighting Group
SPI
Advent

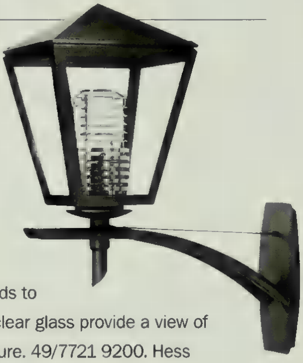
CIRCLE 149 ON INQUIRY CARD

Lighting Briefs

THE LATEST FROM EUROPE Record visited Light+Building, the Frankfurt lighting show, this past March. Over 100,000 visitors checked out new products from 1800 manufacturers. Here are a scant few that we espied.

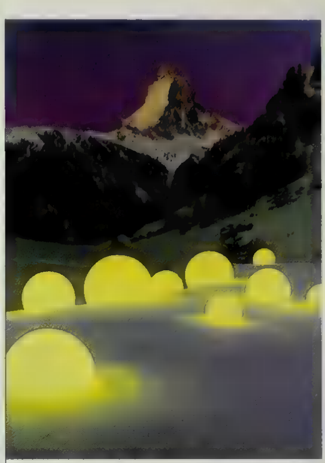
▲ Protective tube lights

One of the many new products from Waldmann Lighting are protective tube lights with linear fluorescent lamps between 18- and 58-watts. Models come in both standard and custom lengths, and the lights allow continuous wiring. Waldmann has equipped a large number of projects with protective tube lighting throughout the world, from railway station buildings, railway platforms, and shopping centers to the facade illumination of the Italian Parliament in Rome. 49/7720 6010. Waldmann Lighting, Villingen-Schwennigen, Germany. **CIRCLE 223**



◄ ► Classics reinvented

Ariano (left) is a wide radiating, indirect light fixture from Hess. The reflector is lifted above the light casing and gives the impression of an object hovering in the sky. The fixture casing of cast-aluminum displays the typical ribbed structure in the collection used for dissipating heat. The Burgos lantern's (right) angular lamp body corresponds to the archetype of a lantern, but the panes of clear glass provide a view of a filigree cylinder with a horizontal ring structure. 49/7721 9200. Hess Form + Licht, Villingen-Schwennigen, Germany. **CIRCLE 224**



▲ Unidentified lighted objects

These eerily glowing balls appear extraterrestrial in origin on this snowbank. The award-winning indoor/outdoor lights are offered in four different sizes and base variations. The balls and hemispheres are waterproof, impact- and UV-resistant, and come with 12 color filters. They can be installed in soil, fastened to solid foundations, and floated in pools or ponds. 49/7762 1018. Moonlight, Wehr, Germany. **CIRCLE 225**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

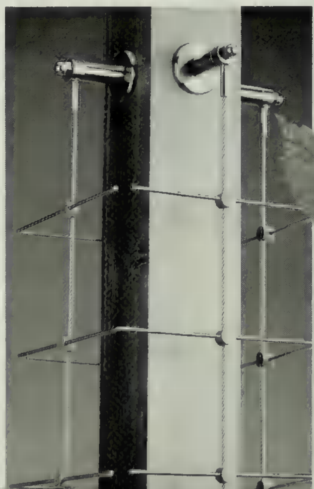
Green Solutions

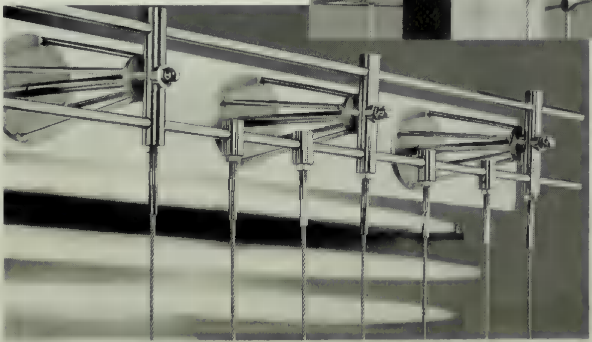
DecorCable Innovations is proud to introduce the new Jakob INOX LINE GreenSystem that is specifically designed for vertical plantscapes and outdoor greening projects.

Whether classic or avant-garde, our wire rope and connector products represent the state-of-the-art in all architectural styles. Ask for a copy of the Jakob INOX LINE G1 catalog.

DÉCOR CABLE INNOVATIONS

DécorCable Innovations, LLC
660 West Randolph St.
Chicago, IL 60661
Tel 312.474.1100
1-800.444.6271
Fax 312.474.1789
E mail sales@decorcable.com
Website: www.decorcable.com





CIRCLE 288 ON INQUIRY CARD

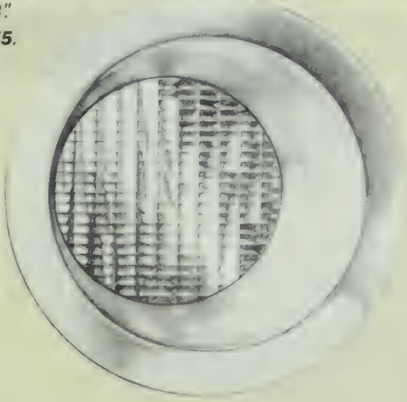
NEAT TRICK!

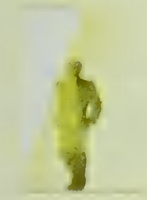
Introducing Darklite Washlite® 30/5. Floor-to-ceiling wallwashing from a 5" aperture. For standard height walls that need museum-quality incandescent lighting. The trick? A new 40° x 70° spread lens and 'kicker' reflector sized for 75-watt PAR-30 lamps. Dimmable full-spectrum lighting. Overall depth of just 8".

Darklite Washlite 30/5.

For information and the name of your local representative call 212-521-6900; fax 212-888-7981; email info@epl.com

PAR-30
quartz halogen

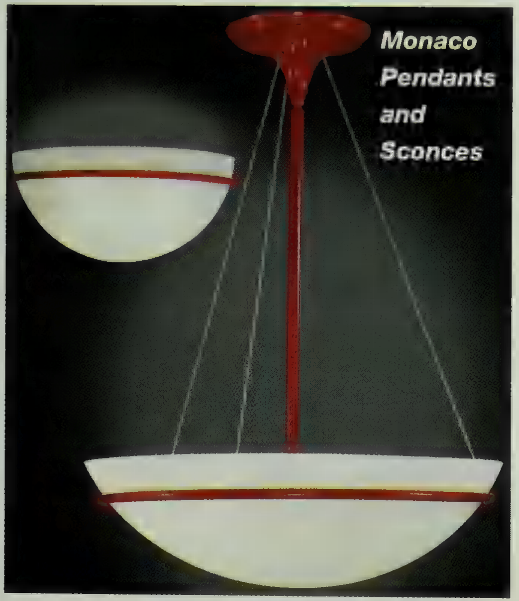




uniform illumination
on walls

EDISON PRICE LIGHTING

CIRCLE 289 ON INQUIRY CARD



THE ORIGINAL CAST™ LIGHTING

6120 DELMAR BLVD. • ST. LOUIS, MO 63112
314.863.1895 • FAX: 314.863.3278
www.theOCL.com

CIRCLE 290 ON INQUIRY CARD

BALDINGER

Inspired by the great masters of the Art Deco Era, La Clarinette Wall Sconce is an elegant new addition to The Classic Collection.

The new vanity lights from Baldinger are available in a range of styles, prices, finishes and sizes.

BALDINGER ARCHITECTURAL LIGHTING, INC
19-02 STEINWAY STREET, ASTORIA, NY 11105
TEL: 718-204-5700 FAX: 718-721-4986
visit our website at www.baldinger.com

CIRCLE 362 ON INQUIRY CARD

PAREXEIFS

EXTERIOR INSULATION AND FINISH SYSTEM

We have the System you need.

If you need a secondary moisture barrier...

YOU NEED KEYCOAT

New Liquid Membrane Adhesive 395A

A proven 100% acrylic water resistant membrane plus an EPS adhesive in a single coat.

PAREX®

800-537-2739 PAREX Inc. Headquarters: 1870 Stone Mountain-Lithonia Rd, Redan, GA 30074
800-780-6953 Western Region: 11290 South Vallejo Court, French Camp, CA 95231
www.parex.com
CIRCLE 291 ON INQUIRY CARD

100%
ACRYLIC
POLYMERS

MEMBER OF
EIMA

New Products

Today, solid surfacing can be specified in a variety of strange places, including down in a subway system and as exterior cladding. According to writer Russ Lee, architects should take another look at this material's potential. This month we also profile several laminates that bedeck surfaces with alternative colors, textures, and patterns. *Rita F. Catinella*

SOLID NEW IDEAS FOR SURFACING

Solid surface is a constantly evolving building product, and most industry experts say architects haven't begun to realize its potential applications for the home and industry.

Originally developed as an alumina trihydrate (ATH) filled resin product, solid surface was invented in 1963 by DuPont Corporation, which marketed its acrylic resin product under the name of Corian. Since that time, other solid surfaces have emerged using polyester and modified polyester/acrylic as their resin bases. Today, there are six major international manufacturers of solid surface: Avonite, Corian, Fountainhead by Formica, Gibraltar by Wilsonart, LG Hi-Macs, and Surell by Formica.

Most manufacturers offer a 10-year installed warranty on solid surface when the product is fabricated and installed by a "certified fabricator." Two years ago, the International Solid Surface Fabricators Association (ISSFA) released its definition and performance standard for solid surface, titled ISSFA-1-98. This document divides solid surface into three major categories and specifies the testing criteria for minimum performance standards in each category.

Solid surface is most commonly produced in ½-inch-thick sheets, which are then fabricated into usable shapes, such as countertops, wall cladding, flooring, architectural molding, furniture, and signage. The appeal of solid surface is its machinability; other benefits include the ability to seam two pieces together invisibly, it is non-porous, and it offers a large selection of colors and textures.

Take it outside

Placing the product outside is a new application option. Aristech Acrylic Corporation has developed a ¼-inch thick exterior cladding material called Acrystone (bottom).

"Other products, such as brick, stone, or concrete are very porous," says marketing manager Jeff Dvorak. "You put them outside, they soak up the acid rain and dirt, and they look old and dirty after a couple of years. On the other hand, solid surface will look the same in 15 or 20 years as it did when it was first installed, because it is non-porous and renewable." Dvorak says the ballpark figure for the installed price for solid surface cladding is in the $20 to $25 per square foot range. When you take into consideration that panels can be thermoformed to virtually any shape, are considerably lighter than glass or stone, are easy to maintain and repair (graffiti can be sanded off), and they are cost effective, it's easy to imagine the skylines of the future gleaming with solid surface.

Moving in a new direction

As hard working as solid surface is three stories up, however, it is also ideal for underground applications where the wear, tear, grease, and grime of subterranean public transportation put it to the test in both function and form. In Pusan, Korea, the entire subway system has been renovated to include 2,500 sheets of Hi-Macs solid surface in every conceivable usage. "The decision to install solid surface in the subway system was based primarily on the need for low maintenance and durability," says Andrew Ballard of LG Decorative Surfaces, the company which distributes Hi-Macs in the U.S. He says that Pusan elected to use solid surface on the station walls, support columns, benches, elevator enclosures, and ticket booths. Even the directional signage is made from the product.

More than just the counter

The Kentucky Tourist Welcome Center chose solid surface for architectural millwork in a high traffic environment because of its maintenance-free properties (top). Gibraltar solid surface was fabricated into columns, dentil moldings, picture frames, wainscoting, window and door frames, as well as the main reception desk.

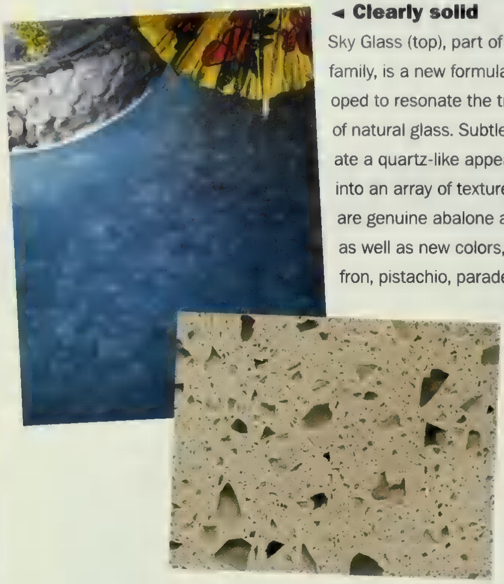
Even the bathroom is a place where uses for solid surfacing eclipse simple vanity top applications. Solid surface seems made-to-order for the Americans with Disabilities Act, because it can be customized quickly and efficiently, and offers an easy-to-maintain surface. In fact, it is an ideal product for moisture-rich applications anywhere. One case in point is the bathroom shown here (center) that features a two-bowl Corian vanity top, solid surface tub surrounds, and soap dish all trimmed with an inlaid accent stripe. The shower wetwalls, as well as the shower seat, knee-wall wainscoting, and window trim also are made from the product. Even the floor comprises beveled solid surface tiles.

Other innovations—which include combining natural and man-made materials into the product matrix, increasing translucency, and altering aesthetics through manipulation of texture and color—demonstrate that solid surface is an evolving cladding option. Architects should make sure that solid surfacing, like any other material, has the properties that are most appropriate for the project at hand. *Russ Lee*

For more product information:
800/4-CORIAN. DuPont Corian, Wilmington, Del. CIRCLE 226
254/207-7000. Wilsonart International, Temple, Tex. CIRCLE 227
800/354-9858. Aristech Acrylics Corporation, Florence, Ky. CIRCLE 228
888/659-8677. LG Hi-Macs, Belfair, Wash. CIRCLE 229

Russ Lee is editor-in-chief of SolidSurface *magazine.*

New Products



◄ Clearly solid

Sky Glass (top), part of Avonite's Soladium Crystal family, is a new formulation of solid surface developed to resonate the translucency and dimension of natural glass. Subtle, ghostly particulates create a quartz-like appearance that refracts light into an array of textures. Also new from Avonite are genuine abalone and mother of pearl inlays, as well as new colors, including cement, iris, saffron, pistachio, parade, and moon dust (below). The textured solids include large clear particulates that make the surfaces appear porous and crude. Finishes can be matte, satin, or gloss. 800/428-6648. Avonite, Albuquerque, N.M. **CIRCLE 230**

▲ Flexible texture

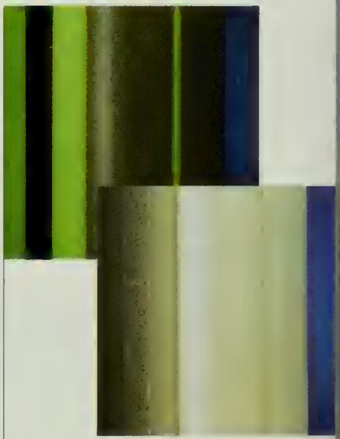
Kinon is a handmade decorative surface that utilizes light spectrums creating a texture with depth. The material is easily fabricated for any application, including as wall paneling and as a surface for executive office furniture (shown above). 908/558-0011. Kinon, Hillside, N.J. **CIRCLE 231**

▼ New ¼-inch sheets

Swanstone reinforced solid surface sheets are now available for custom fabrication in a variety of ¼-inch sheets. The solid surface is available in an economical thickness for a limitless variety of vertical, horizontal, or curved applications such as backwalls, custom countertops, islands, tabletops, and retail fixtures. Swanstone sheets work well when placed over a base of high-density particle board or high-grade interior plywood. 314/231-8148. The Swan Corp., St. Louis. **CIRCLE 232**

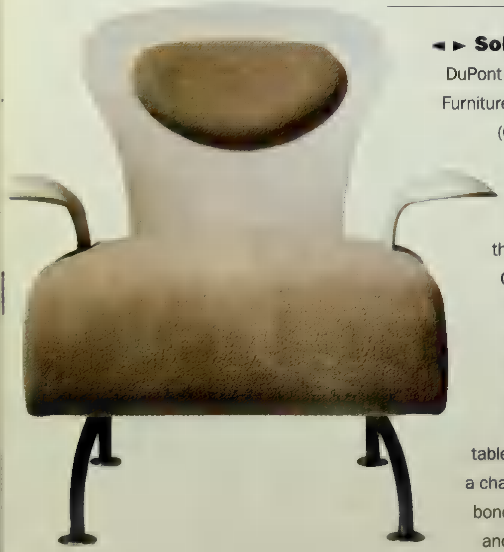
► Laboratory tested

The homogenous character of Kemresin Lite offers protection against most acids, alkalis, and solvents. The chemical resistance is deeply ingrained in the epoxy worksurface material. Kemresin Lite combines a ¼-inch modified epoxy resin surface with an engineered substrate, providing a 1-inch-thick worksurface. Integrally molded exposed edges are rounded to a ¼-inch radius and have a drip groove for added protection. 800/932-3296. Kewaunee Scientific Corporation, Statesville, N.C. **CIRCLE 233**



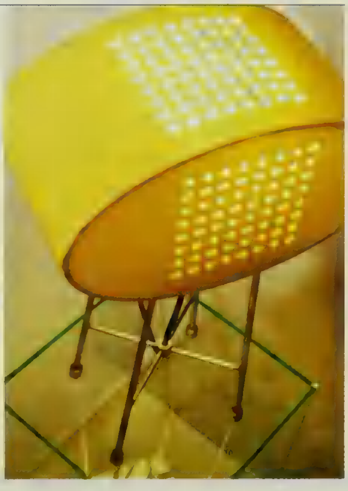
▲ Glow-in-the-dark surfacing

Midnight Visions is a clear solid surfacing material (bottom) that is transformed into a glow-in-the-dark surface (top) through the process of phosphorescence. Exposure to 10 minutes of bright sunlight or 45 minutes of office light allows the product to radiate for eight to 10 hours. Non-toxic and FDA approved, Midnight Visions can be fabricated for stairs, light switch covers, signage, floor markers, chair rails, and base moldings. 877/386-4323. Fountainhead, a division of Formica Corp., Odenton, Md. **CIRCLE 234**



◄ ► Solid show pieces

DuPont Corian and the Chicago Furniture Designers' Association (CFDA) are currently co-sponsoring *New Ideas in Furniture-CFDA Competition 2000* at the Chicago Cultural Center. For the show, 21 CFDA designers combined a wide array of Corian colors with a variety of materials to create pieces ranging from tables to lights. Shown here is a chair designed of Corian in bone with chenille, steel, and aluminum, and a light combining stainless steel and Corian in glacier white. The show will be on display through May 14, 2000. 800/4-CORIAN. DuPont Corian, Wilmington, Del. **CIRCLE 226**



J. Windom Kimsey, AIA
Tate & Snyder Architects
McCarran International Airport, D Gates
Tate & Snyder Architects Design Studio
Clark County Regional Justice Center

"Within the span of a curve, you capture energy."

Windom Kimsey doesn't have to search to find inspiration for his ceilings. All he really has to do is look up. And soon, the sweeping curves and dramatic forms that infuse his designs begin to take shape. "When you can turn the ceiling into the feature, it gives you more ways to make the space exciting," he says. "Why not push the limits?"

Find out where the curves of our Drywall Suspension System can take *your* designs. Call us today at 1-800-USG-4YOU or visit our website: www.usg.com

USG CEILING SYSTEMS

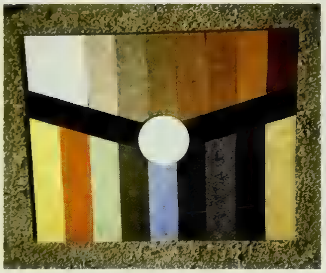
Imagine The Upside.

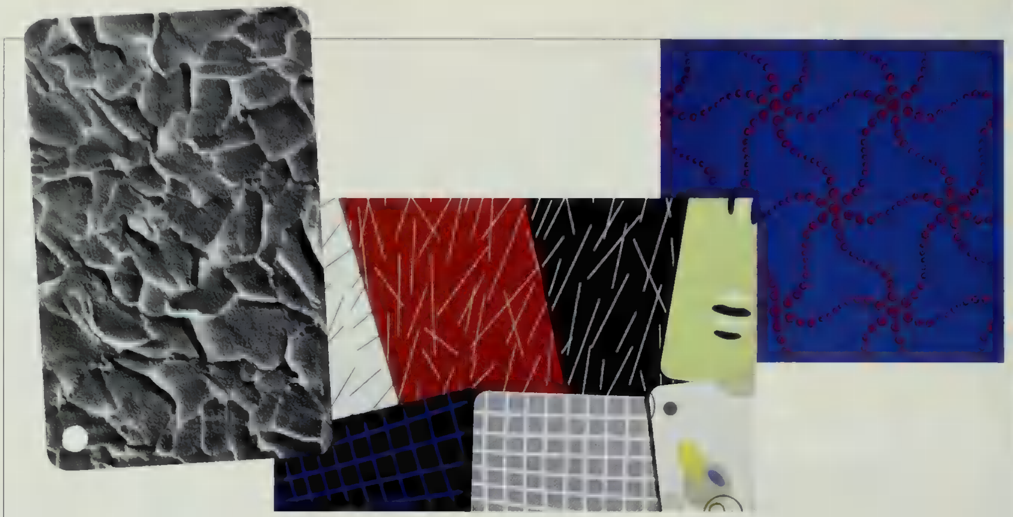
© 1999 USG Corporation

CIRCLE 292 ON INQUIRY CARD

▼ Sicilian influence

The color palette of the new Palermo line of laminates includes Miele (honey), Cielo (sky), Menta (mint), and Limone (lemon). Since 1997, the Arborite Plus product line has offered wear resistance endurance (it exceeds four times the norm), flame resistance (meets Class A and Class 1 of the U.L.C. and U.L. norms) and offers protection from stains and the extremely noxious effects of many chemical products. 800/996-0366. Arborite, LaSalle, Quebec, Canada. **CIRCLE 235**





▲ Fantastic laminates

Cresp (top left), new from Abet Laminati, features a crinkled texture with highlighted raised effects that creates an alternative to ordinary laminates. Intended for vertical or non-working horizontal applications, Cresp is available in 15 solid colors ranging from casual neutrals to vibrant hues. The 22 new designs in Serigrafia 2000 (center and top right) are made possible by Abet's special silk-screening techniques. The brightly colored laminates range in style from delicate patterns to wild designs. Each sheet of postforming Serigrafia is 51-by-120 inches. Abet Laminati manufactures over 700 different laminates and reaches the international market in 89 countries. Abet's full line of high pressure laminates includes 130 solid color choices, plus metallics, woodgrains, natural fibers, stone finishes, silk-screen effects, translucent patterns and solids, and finished wood veneers. 800/228-2238. Abet Laminati, Englewood, N.J. **CIRCLE 236**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

smi™
SPIDER MANUFACTURING INC.
AN ISO 9002 REG. COMPANY

Desk Top Solutions
- stylish versatility
- communications
- multimedia
- fiber optics
- electrical
- data

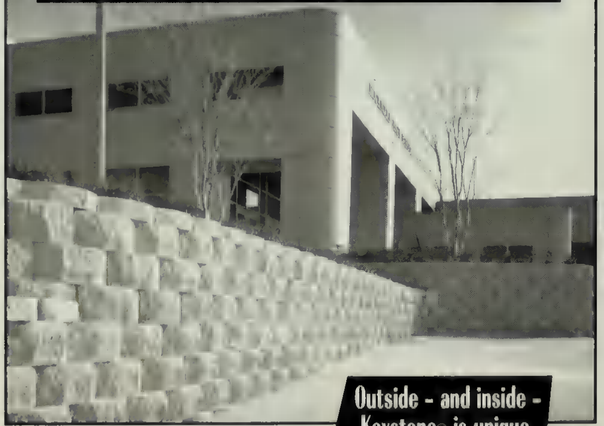
Visit Our Website At
www.spidermfg.com
sales@spidermfg.com

For a Complete Catalogue
Phone (250) 765-2616
Fax: (250) 765-2614

Spider Manufacturing Inc. #5 - 364 Lougheed Rd. Kelowna, B.C. Canada V1X 7R8

CIRCLE 293 ON INQUIRY CARD

WHAT YOU *DON'T* SEE IS WHAT YOU GET



Outside - and inside - Keystone® is unique.

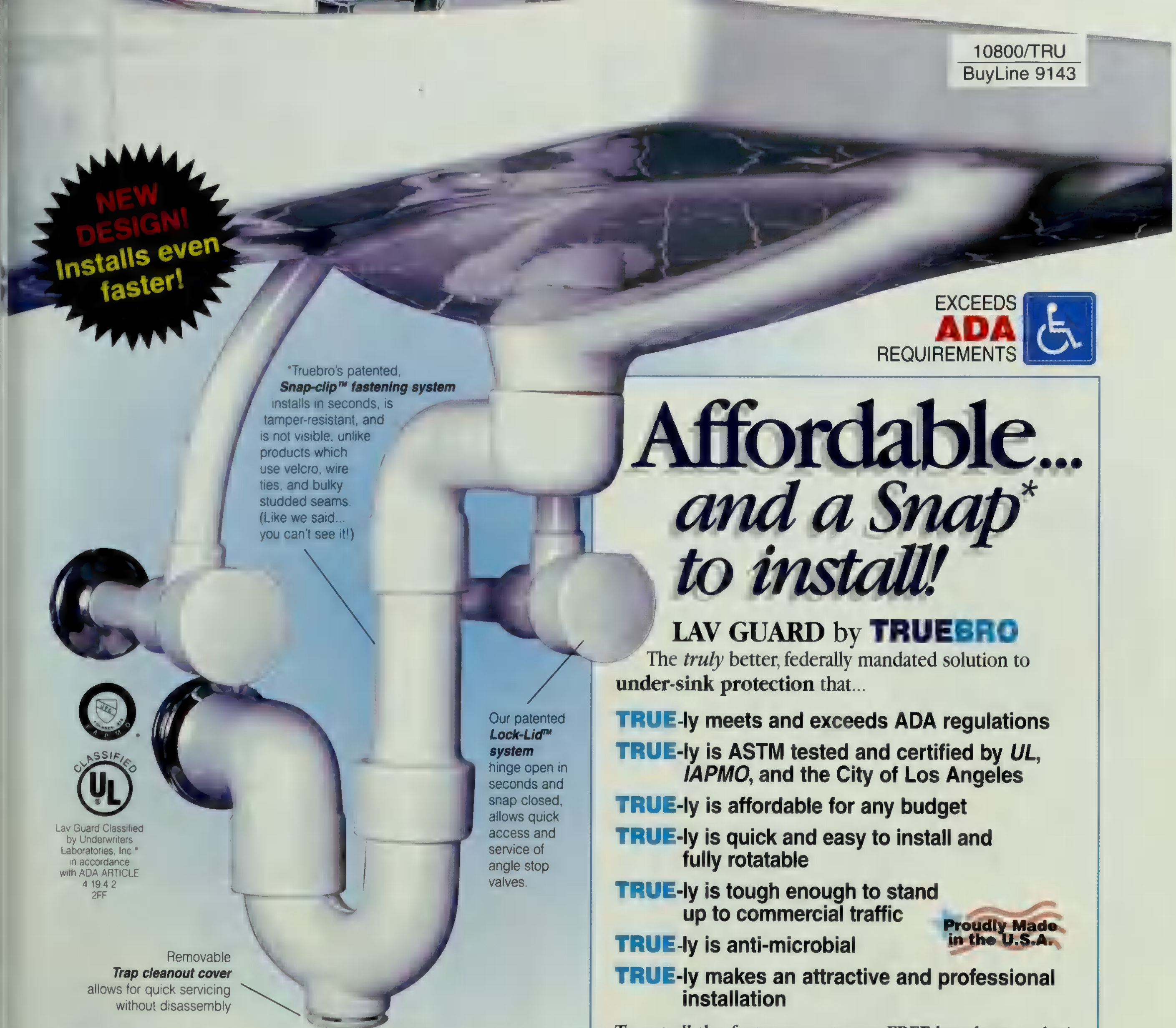
KEYSTONE
The first. To last.
800-891-9791

On the surface, Keystone® walls are beautiful. But inside each Keystone unit lies hidden beauty. When you're building walls that need to hold literally tons of soil mass, our patented fiberglass pin and geogrid system delivers inner strength and gives you that critical assurance. Design with Keystone and you'll design with confidence.

Internet: www.keystonewalls.com · **E-mail:** keystone@keystonewalls.com

CIRCLE 294 ON INQUIRY CARD

10800/TRU
BuyLine 9143



*Truebro's patented, ***Snap-clip™ fastening system*** installs in seconds, is tamper-resistant, and is not visible, unlike products which use velcro, wire ties, and bulky studded seams. (Like we said... you can't see it!)

Our patented ***Lock-Lid™ system*** hinge open in seconds and snap closed, allows quick access and service of angle stop valves.

Removable ***Trap cleanout cover*** allows for quick servicing without disassembly

Lav Guard Classified by Underwriters Laboratories, Inc.® in accordance with ADA ARTICLE 4 19.4 2 2FF

EXCEEDS **ADA** REQUIREMENTS

Affordable...
and a Snap to install!*

LAV GUARD by TRUEBRO

The *truly* better, federally mandated solution to **under-sink protection** that...

- **TRUE-ly meets and exceeds ADA regulations**
- **TRUE-ly is ASTM tested and certified by *UL*, *IAPMO*, and the City of Los Angeles**
- **TRUE-ly is affordable for any budget**
- **TRUE-ly is quick and easy to install and fully rotatable**
- **TRUE-ly is tough enough to stand up to commercial traffic**
- **TRUE-ly is anti-microbial**
- **TRUE-ly makes an attractive and professional installation**

Proudly Made in the U.S.A.

To get all the facts request your FREE brochure today! There's no obligation... and you'll quickly see why TRUEBRO is *truly better!*

LAV GUARD™
UNDERSINK PROTECTIVE PIPE COVERS

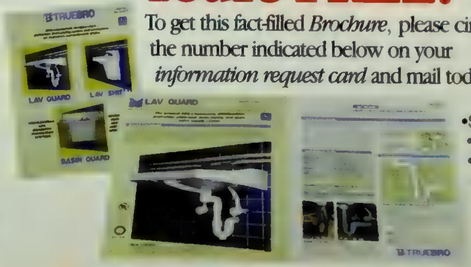
Also available...

LAV SHIELD™
LAVATORY PROTECTIVE ENCLOSURES

BASIN GUARD™
UNDERSINK PROTECTIVE ENCLOSURES

Yours FREE!

To get this fact-filled *Brochure*, please circle the number indicated below on your *information request card* and mail today!



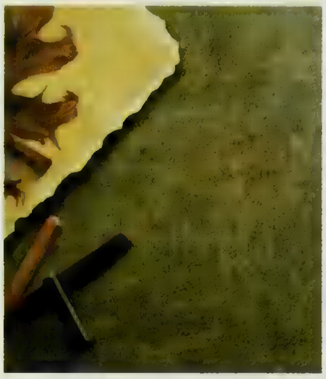
- Specs!
- Sizes!
- Colors!
- Styles!

TRUEBRO
MAKING AMERICA ACCESSIBLE
7 Main Street ▪ P.O. Box 440 ▪ Ellington, CT 06029
Tel 800-340-5969 • www.truebro.com

CIRCLE 295 ON INQUIRY CARD

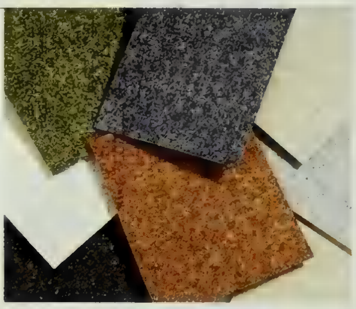
New Products

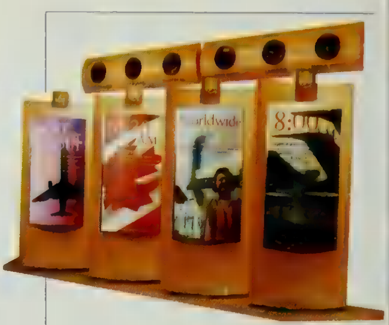
▼ Primary colors
Color Art is a line of 50 solid color laminates from Lamin-Art. Most of the colors in the range complement and coordinate with each other. The high-pressure decorative laminates are intended for interior horizontal and vertical applications where an impact-, wear-, and stain-resistant decorative surface is required. Other styles include veneer prints and pearl luster pigments. 800/323-7624. Lamin-Art, Elk Grove Village, Ill. **CIRCLE 237**



◄ Touch of the blues
Painted Woodlands, colored by natural greens and blues, is part of the 33 offerings in the Year 2000 high pressure laminate collection from Nevamar. All newly introduced Nevamar high pressure laminate items are offered in general purpose grade, postforming, and vertical forming grades in popular sheet sizes. 800/526-9469. International Paper, Decorative Products Division, Odenton, Md. **CIRCLE 238**

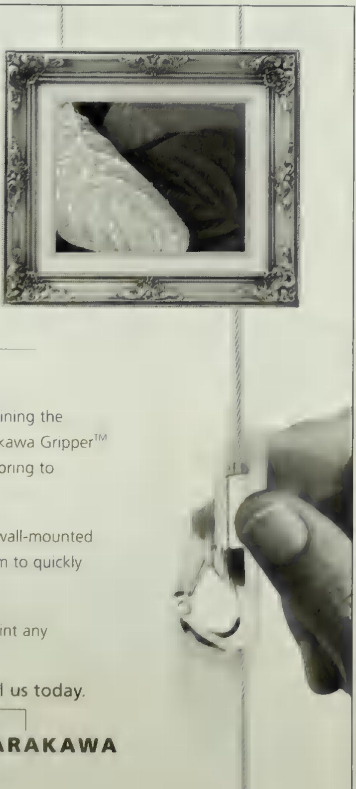
► Look-alike
The Formica brand laminate Envision collection features eight patterns that mirror the 1999 Surell solid surfacing Stone collection. The laminate can stand alone as a countertop material or can be coordinated with the matching Surell solid surfacing material colors. The collection includes neutrals, a jewel-toned translucent blue, a terra cotta with baked clay and black particulates, and a black with deep black particulates. 800/FORMICA. Formica Corporation, Odenton, Md. **CIRCLE 239**





▲ Lasting impressions
Fossil Graphics combines high resolution digital graphics with the durability of high pressure laminate. Fossil panels are available in thicknesses up to 1 inch, with numerous grades and performance options. The graphics are available in quantities as little as one sheet and are guaranteed for up to 10 years against fading. Applications include displays (a U.P.S. office is shown here), signage, wall murals, floor murals, and custom table and countertops. Unlike standard laminate, this product can be used outdoors. 800/244-9809. Fossil Graphics Corporation, Deer Park, N.Y. **CIRCLE 240**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info



form

and function

The new AF3P auto-lock hook: combining the convenience of the self-arresting Arakawa Gripper™ with the security of a carabiner-like spring to effectively secure your art

Hang the AF3P from a cable on our wall-mounted rail, and you have an attractive system to quickly position art anywhere on the wall

And you won't have to patch and paint any more nail holes.

Call us today.
toll free
888.ARAKAWA

ARAKAWA HANGING SYSTEMS
1020 SE Harrison Portland, Oregon 97214 www.arakawagrip.com

CIRCLE 296 ON INQUIRY CARD

A bundle of *International Codes* "Designed" to fit your needs

Four of the NEW *2000 International Codes* that Architects and other design professionals use most are available as a BOCA bundle.

The Designer Bundle includes the *International Building, Fire, Residential* and *Energy Conservation Codes* at a bundle savings of 15%.
List $179; BOCA member $143

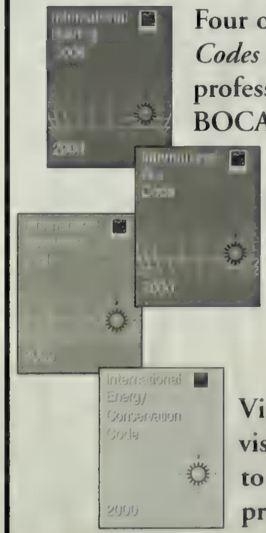
Visit BOCA at the AIA show, or visit our web site at www.bocai.org to see the complete line of BOCA products and services.

For more information or credit card orders, call 1-800-214-4321, ext. 712

FREE and PROMPT shipping.

BOCA BUILDING OFFICIALS CODE ADMINISTRATORS INTERNATIONAL

CIRCLE 297 ON INQUIRY CARD



A New Flavor of Anodized Aluminum from YKK AP...

White!

Now it's possible to get all the rewarding benefits of Anodized Plus® in white! YKK AP Anodized Plus provides a unique protective coating on anodized finishes. The anodic coating, combined with an organic film, offers the dual benefits of enhanced durability and corrosion resistance. And, our patented vertical immersion process guarantees complete coverage of all exposed surfaces with a delectably smooth finish. So, at last you can have the white color you want, without the "orange peel" commonly seen on painted finishes.

Just the kind of refreshing innovation you've come to expect from YKK AP, a world leader in architectural aluminum.

YKK ap America™

For more information
call 1-800-955-9551.
www.ykkap.com

©2000 YKK AP America Inc. is a subsidiary of YKK Corporation of America.

CIRCLE 298 ON INQUIRY CARD

LEHIGH CEMENTS

Engineered for Quality. Specified for Creativity.

For over 100 years, Lehigh Gray, White, and Custom Color Portland and Masonry Cements have been used in concrete to create architectural masterpieces. With Lehigh products, architects are given the freedom to choose a multitude of applications to achieve an unlimited range of color, texture, shape, size and pattern. Our versatile quality cements are uniquely transformed through your imagination and creativity. Contact us today or visit us on the web.

CONTINUING EDUCATION AIA

LEHIGH

Since 1897

7660 Imperial Way, Allentown, PA 18195
800-523-5488 610-366-4600 Fax: 610-366-4638
www.lehighcement.com

CONVENTION AIA EXPO PHILADELPHIA

Visit us at Booth #2107 at AIA Expo 2000

CIRCLE 299 ON INQUIRY CARD

Product Briefs

▼ If these walls could talk

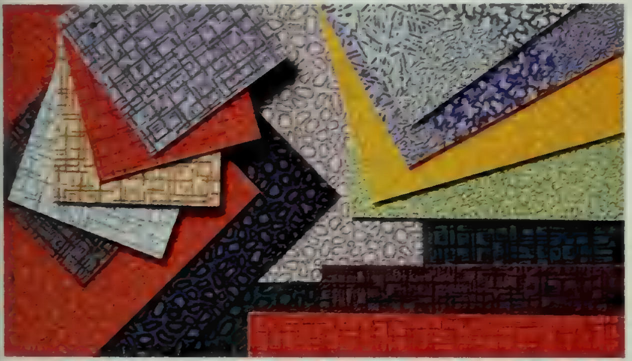
Carnegie introduces Xorel Vision (below), a translucent textile intended for upholstery and panel use which is PVC-free, plasticizer-free, and low in VOCs. Xorel is solution-dyed and inherently flame-retardant; no chemical treatments are required. It also comes in a collection of bright and saturated Techno colors. The new Fusion collection features the Xorel yarn mixed with another fiber in eight tactile patterns and nine colorways. Xorel fabrics are durable, easily cleaned, and recognized by Greenpeace as a viable environmental alternative to vinyl. 800/727-6770. Carnegie, Rockville Center, N.Y. **CIRCLE 241**

◄ Rock solid

DuPont Zodiaq quartz surfaces is a new brand and category of surfacing from DuPont. The surfaces are made of 93 percent quartz, and are suitable for all interior horizontal and vertical surfaces in both commercial and residential environments. Zodiaq surfaces are non-porous, feature scratch- and stain-resistant properties, can be machined, sandblasted, and inlayed, and are backed by a 10-year limited installed warranty. This office atrium has stairway stringers and fascia made with Zodiaq surfaces in Vortex Black. The wall panels are made with Zodiaq in Astral Pearl. 877/229-3935. DuPont, Wilmington, Del. **CIRCLE 242**

► Getting the message across

Graphic Solutions, working in close coordination with the LEGOLAND design and construction team, created award-winning signs for the theme park which opened in Spring last year in Carlsbad, Calif. Graphic Solutions was retained to add a level of visual excitement to the project's signage and graphics to better appeal to Southern California's sophisticated youth. The firm focused its efforts primarily on attractions such as the futuristic "Maniac Challenge" food services (right), and retail venues which incorporate LEGO characters in action. Other Graphic Solutions projects include Disneyland, entertainment centers, and the Century Stadium Promenade, Orange County, Calif. (far right). 619/239-1335. Graphic Solutions, San Diego. **CIRCLE 243**

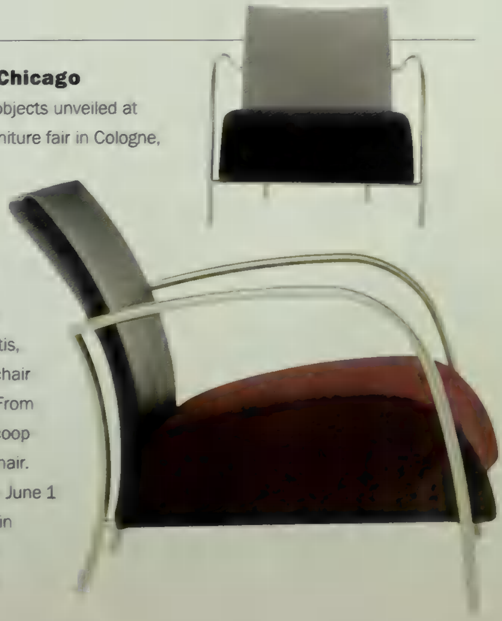


▲ Restyled flooring line

In response to the changing aesthetic of hospitality and healthcare facilities worldwide, Bonar Floors recently updated and re-styled its Flotex Tile modular textile flooring product, including three new patterns and 36 colorways. Flotex is a vinyl floor injected with approximately 50,000 upright nylon fibers per square inch, offering high-pile density and resistance to packing and crushing. Flotex's dense pile makes it easy to mesh borders and insets with patterns. 800/852-8292. Bonar Floors, Newnan, Ga. **CIRCLE 244**

► From Cologne to Chicago

Chosen from the range of objects unveiled at this year's international furniture fair in Cologne, Luminaire offers new furniture exclusives from TEAM by WelliS, ClassiCon, Pallucco Italia, and Montis. Among the items being introduced are seating furniture from Montis, including the Lomas easy chair (right), and the Paso sofa. From Pallucco Italia come the Scoop stool and table, and Max chair. The pieces will be available June 1 at Luminaire's showrooms in Chicago and Coral Gables. 312/664-9582. Luminaire, Chicago. **CIRCLE 245**



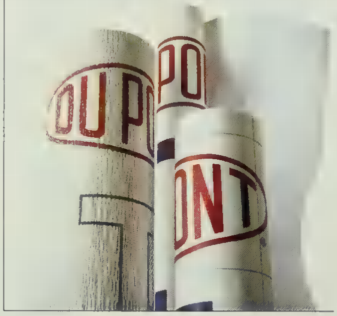
For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

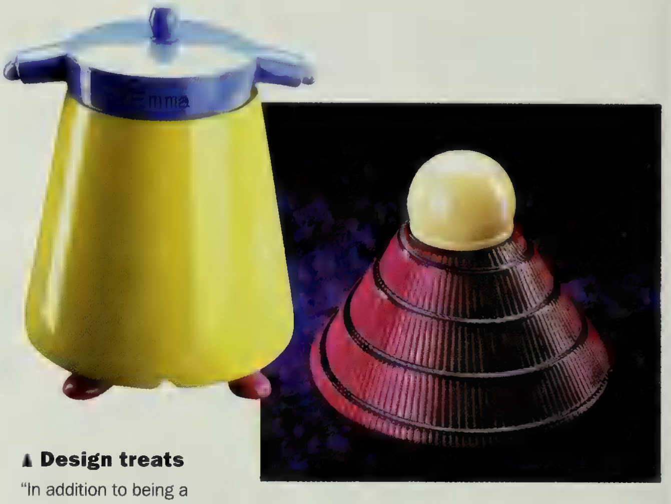
▲ Creating his opus

Orlando Diaz-Azcuy has created his second collection of fabrics for HBF Textiles. Opus II includes six patterns with a total of 47 colorways. Maze, shown above, is a blend of rayon, polyester, and cotton with a light acrylic backing that takes its markings from an interpretation of the Greek key's interlocking lines. Avanti, a 100 percent wool face epingle with a cotton ground, offers a base for the entire collection. 704/328-2064. HBF Textiles, Hickory, N.C. **CIRCLE 246**

▼ Wrap it up

DuPont Tyvek is a non-perforated continuous microfiber web with microscopic pores large enough for moisture to pass through, yet small enough to resist air and liquid water penetration. The DuPont Tyvek Weatherization System includes HomeWrap, StuccoWrap, CommercialWrap (intended for light commercial construction), and Contractor Tape. Tyvek helps reduce drafts in the winter and keeps out hot air in the summer. 800/44-TYVEK. DuPont Tyvek Weatherization Systems, Wilmington, Del. **CIRCLE 247**





▲ Design treats

"In addition to being a mainstay of Americana, the cookie jar is, in a sense, a 'miniature' building. Who better than an architect to design one," explains Jack Markuse, who asked eight of the world's best-known architects to put their signature styles on these functional pieces of sculpture. The eight pieces in the collection, each made of porcelain and ceramic, are by Michael Graves, FAIA, Richard Meier, FAIA, Richard Gluckman, FAIA, Laurinda Spear, FAIA, Clodagh, Cesar Pelli, FAIA, (Volcano, top right), Antoine Predock, FAIA, and Stanley Tigerman, FAIA (Sam-Emma, top left). In addition, Graves, Spear, Pelli, Tigerman, and Clodagh are creating a limited edition of 99 lithographs, each signed by the architect. The collection will be available in museums and specialty stores worldwide. 978/670-5900. Projects, a division of The Markuse Corporation, Billerica, Mass. **CIRCLE 248**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

digital wide forma

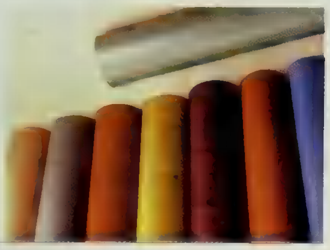
The wide-body with the wide range of features. The Ricoh FW7030D. Multiple copies at a fast speed of 15.7 fpm. It features R/E from 25 to 400%
up to 400 dpi, 32-level grayscale, positive-negative reverse, mirror image and much more. A controller software option provides full network connectivity

© 1999 Ricoh Corporation.

Product Briefs

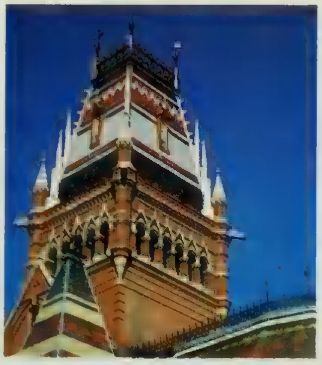
► Nature trail

The new LonWood Natural flooring line features a real wood look with open grain textures. The resilient sheet vinyl flooring is impervious to water, spills, and most common household and hospital chemicals. It comes in the standard 6-by-60-foot roll and can be welded for a sanitary, seamless installation. LonWood Natural features a subtle plank definition and nine colors including Maple Syrup and Nutshell. 310/830-7111. Lonseal Inc., Carson, Calif. **CIRCLE 250**



► Grid-hiding panels

Optima Vector, the new addition to Armstrong's line of open-plan ceilings, uses the Vector grid-hiding edge detail to create a sleek $\frac{1}{4}$-inch reveal that minimizes the visible grid. The 2-by-2-foot lay-in panels install in a standard $\frac{15}{16}$-inch exposed tee suspension system. 888/CEILINGS. Armstrong World Industries Inc., Lancaster, Pa. **CIRCLE 249**



▲ Accepted into Harvard

North Country unfading black natural roofing slate was chosen as one of the slate colors to be used in the rebuilding of the long lost tower of Memorial Hall at Harvard University. Built as a memorial to Harvard's Civil War dead, its tower had been destroyed by fire in 1956 and capped with a flat roof for 44 years. 800/975-2835. North Country Slate, Scarborough, Ontario, Canada. **CIRCLE 251**

▼ Special TPO membrane

The Stevens EP-B membrane is a configuration of reinforced thermoplastic polyolefin (TPO) specifically designed for stone or paver ballast roof applications. The membrane's sand-colored topside distinguishes it from the white, black, or gray Stevens EP used primarily for mechanically attached and fully adhered applications. 800/621-ROOF. Stevens Roofing Systems, Holyoke, Mass. **CIRCLE 252**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

from a digital leader

Plus an optional memory unit offers "scan once print many" and electronic collation – improving productivity. The huge gap between
Ricoh and the competition in digital copiers is clearly getting wider. And wider. Call 1 800 63 RICOH or visit us at www.ricoh-usa.com

We're in your corner.

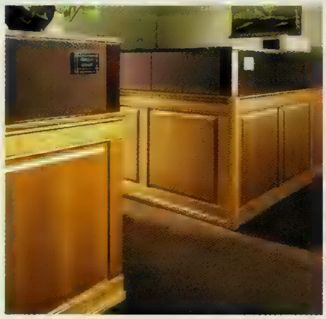
RICOH®
Image Communication

CIRCLE 300 ON INQUIRY CARD

Product Briefs

► First class waiting only

Sir Norman Foster has created Air Line, a seating system for public waiting zones at airports, bus stations, public atria, and shopping malls. Air Line's die-cast aluminum legs support an aluminum beam, while seats and backs are offered in wood, aluminum, or upholstery. 212/539-1900. Vitra Inc., New York City. **CIRCLE 253**



◄ Custom millwork look

The New England Classic raised panel system uses wood panels to accentuate virtually any interior space. The product is made using select grade-A sliced veneer, laminated to a stable engineered wood core. Standard sizes of raised panels, along with precision-machined rails and stiles, create a fully integrated system. 888/880-6324. New England Classic Inc., Portland, Maine. **CIRCLE 254**

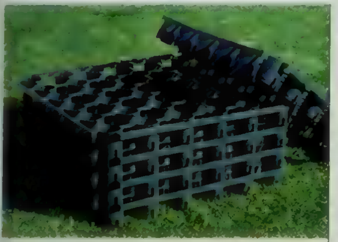
► Historic walls

The Manchester Historic Association has created an education center for people to learn more about the history of the area. The visitor's orientation center, which leads to the History Center, represents a good application of digital images and printed wall murals. Working with designer Joe Viamonte, the director of the association decided to use full-size murals from old photos of the mill town a hundred years ago. The 10-by-4-foot panels were printed and then transferred to Rexam's Wallternatives scratch- and graffitti-resistant wallcovering media. 800/628-8604. Rexam Image Products, South Hadley, Mass. **CIRCLE 255**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

ThinkWIDE.
WIDE PANEL METAL CEILING SYSTEMS

Product Briefs

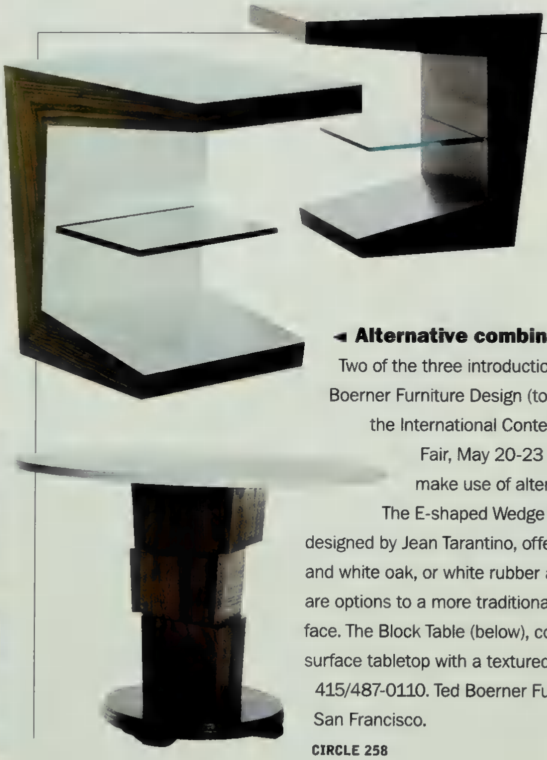


▲ Saving for a rainy day

Rainstore^3 may help engineers and specifiers who have problems with arched chambers or pipe systems that cannot meet site restrictions. Rainstore^3 is ideal for storm water retention/detention, and can also be utilized for long-term water storage for irrigation, fire protection, and potable applications by encasing the structures in an impervious liner. 800/233-1510. Invisible Structures Inc., Aurora, Colo. **CIRCLE 256**

▼ Positive exposure

Nana Wall Systems offers the Opening Glass Wall, a wood-framed folding French door system. Top-hung panels combined with state-of-the-art German-made hardware provide smooth sliding and folding operation, even when the bottom track has some dirt or sand in it. A concealed multiple-point locking system is used for security against forced entry, to help reduce structural deflection under high wind conditions, and to minimize any chance of warpage. 800/873-5673. Nana Wall Systems Inc., Mill Valley, Calif. **CIRCLE 257**



◄ Alternative combinations

Two of the three introductions from Ted Boerner Furniture Design (to be on display at the International Contemporary Furniture Fair, May 20-23 in New York City) make use of alternative materials. The E-shaped Wedge table (top), guest-designed by Jean Tarantino, offers cork, rubber, and white oak, or white rubber and walnut. These are options to a more traditional all-wood surface. The Block Table (below), combines a solid surface tabletop with a textured wood base. 415/487-0110. Ted Boerner Furniture Designs, San Francisco.

CIRCLE 258

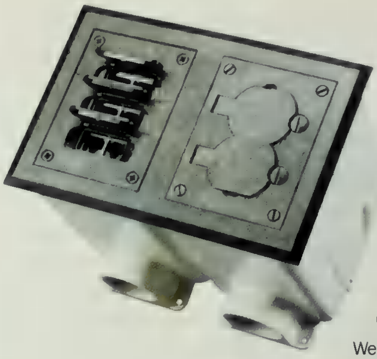
For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

• WIDER PANEL WIDTHS & LONGER PANEL LENGTHS COVER LARGER AREAS WITH FEWER PANEL JOINTS
• EASY INSTALLATION AND ACCESSIBILITY
• ACOUSTICAL PERFORMANCE
www.widepanel.com
for more information: 800-366-4327
LUXALON®
A HunterDouglas® PRODUCT
CIRCLE 317 ON INQUIRY CARD

Product Briefs

▼ Treasures of the deep

Most of the trees recovered by Goodwin and Company are hundreds and sometimes thousands of years old. When the trees were initially hewn, it was the oldest and most dense trees that rolled off the logging rafts and slipped in the darkness of the Suwannee and Florida Rivers. Many carry the V-bottom cut of the broad ax used more than 100 years ago. The wood is carefully raised, kiln-dried, then cut to the specifications of the particular project. Applications include the Ernest Hemingway House Museum in Key West, Fla. (shown below). 800/336-3118. Goodwin Heart Pine Company, Micanopy, Fla. **CIRCLE 259**



◄ Nonmetallic cover plate

The Wiremold Company has introduced a nonmetallic floor box cover plate that accepts up to six modular communication activation inserts. The nonmetallic Activate cover plate features three flip lids with gaskets that maintain scrub water approval for tile and carpet installation. 800/621-0049. The Wiremold Company, West Hartford, Conn. **CIRCLE 260**

► Sculptured brick fireplace

17th Century Fireplace offers a custom, handcrafted look for the hearth and mantle. Based on Boral's 17th Century series of wood mold bricks, the line comes in a choice of three colors. The ornamental hearth and mantle can be customized further with a choice of four handcrafted, original sculptured brick designs. Custom sculptures can also be commissioned. 800/5-BORAL. Boral Bricks Inc., Roswell, Ga. **CIRCLE 261**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

ELIASON® EASY SWING® DOUBLE ACTION DOORS
CUSTOM BUILT IMPACT TRAFFIC DOORS FOR A VARIETY OF APPLICATIONS

- SUPERMARKETS
- CONVENIENCE STORES

- RESTAURANTS
- FOOD SERVICE

FOR USE IN:
- DRUG
- DEPARTMENT
- SHOPPING MALLS
- RENTAL STORES
- PET SHOPS
- HOTELS
- HOSPITALS

Eliason manufactures a variety of gravity operated double action doors for most interior applications. Offset pivotal hardware facilitates a safe, gentle swinging action. Just a light assist opens the doors and they close automatically with a slight time delay. They can be fabricated in a variety of sizes with many window and decor options. For use in light, medium or high impact traffic doorways.

AIA, ELIASON BOOTH 1056, MAY 4-6 , PHILADELPHIA,PA
CSI, ELIASON BOOTH 1634, JUNE 22-24 , ATLANTA, GA

BUY DIRECT CALL TOLL FREE 1-800-828-3655
OR SEND FOR YOUR FREE PRICE/SPEC CATALOG

ELIASON® CORPORATION

P.O. BOX 2128, KALAMAZOO, MI 49003, U.S.A., Ph: 616-327-7003
P.O. BOX 1026, WOODLAND, CA 95776, U.S.A., Ph: 530-662-5494
CA FAX 800-662-5192 MI FAX 800-828-3577

Web Site: www.eliasoncorp.com E-Mail: eliawest@woodland.net E-Mail: doors@eliasoncorp.com

CIRCLE 318 ON INQUIRY CARD

DESIGN AS HIGH OR AS WIDE AS YOU CAN DREAM...

With Strong, Lightweight and Durable Metal Wall and Cladding Systems

A complete palette of colors and finishes, textures and profiles for the most discriminating designers of high- and low-rise commercial, institutional and industrial buildings.

Contact the Metal Construction Association for some free thought-provoking ideas, technical literature, Merit Awards entry brochure and more information on MCA's Metal Wall Panel Council.

104 S. MICHIGAN AVE.
STE. 1500
CHICAGO, IL 60603
PHONE: 312-201-0193
FAX: 312-201-0214
www.mca1.org

MCA
Metal Construction Association

CIRCLE 319 ON INQUIRY CARD

Product Briefs

▼ Play station

The PlayOdyssey system is designed to accommodate nine play events off of one deck. The system consists of pods built around a large 8-sided, 9-foot diameter deck that can be accessed by a ladder at its center. Each Pod's deck supports are at the edge of the deck, making the structure appear to float above the ground while creating more play space underneath. A bubble-topped roof provides shade. 888/4FUNLSI. Landscape Structures Inc., Delano, Minn. **CIRCLE 262**

► Need a lift?

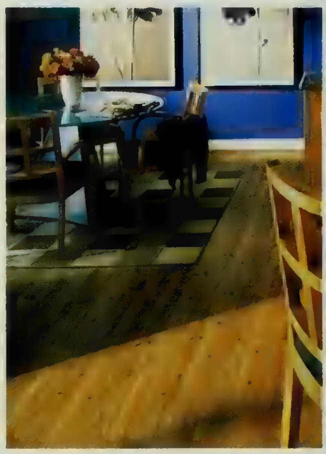
The new TAC50 control system is a totally digital system for new or existing traction elevators. The motor drive system allows for fast response during acceleration, high speed, deceleration, and leveling. The system will operate with most elevator types. 601/393-2110. Dover Elevator Systems, Memphis. **CIRCLE 263**

▲ Decorate concrete

Ultra-Tex is a proprietary blend of acrylics, cement, sealers, and colorants that simulate the look of brick, stone, slate, or tile on concrete surfaces. Residential applications include driveways, patios, swimming pools, and interior floors, while commercial uses include theme parks, restaurants, and shopping malls. It can be used in either new construction or renovations. 800/321-7628. The Euclid Chemical Co., Cleveland. **CIRCLE 264**

▼ New tile and wood designs

The Pergo Select product range has added three new tile and two new wood collections. The American Woods collection includes Oregon glazed Pine (shown below), which features glazes in neutral and reddish tones and knots. Like all Pergo products, the tile and wood designs are backed by a new 25-year warranty against fading, stains, wear-through, and water damage. 800/33-PERGO. Pergo Inc., Raleigh. **CIRCLE 265**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

ARCHITECTURAL POTTERY

SHIPPING WORLDWIDE

- Commercial & Residential Containers in GFRC
- Handmade Greek & Italian Terra Cotta
- English Style Sandstone
- Handcarved Vicenza Stone
- Ethnic Reproductions
- Custom Manufacturing & Finishes
- Frank Lloyd Wright Authorized Reproductions

Call or E-mail for Your Free Catalog

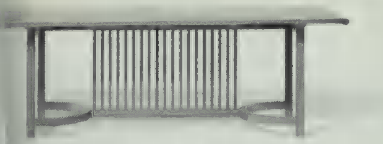
ARCHITECTURAL POTTERY
Ph. 714/895-3359 • 1-888/ARCHPOT • Fax. 714/898-5109
15161 Van Buren, Midway City, California 92655
E-Mail: archpot@msn.com Web: www.archpot.com

CIRCLE 320 ON INQUIRY CARD

LOOMIS LIGHT FRAMES™

Charles Loomis, Inc.
425.823.4560
[illegible]
425.823.8654 fax
loomislights@msn.com

CIRCLE 321 ON INQUIRY CARD



TEAK BILBAO TABLE

BEAUTY WITHIN While it's true that Smith & Hawken furniture is virtually synonymous with outdoor living, most of our pieces take up residence indoors with equal élan. Materials like water hyacinth and rattan look just as inviting nestled by the fire as they do on a covered porch. And even outdoor stalwarts such as our blizzard-proof teak cross the threshold in style, adding substance to an indoor grouping.

Smith&Hawken

TEAK SARANAC ARMCHAIR

Trade

WATER HYACINTH CHAIRS

Smith&Hawken
FURNITURE TO THE TRADE

To see our newest product offerings, call (415) 506-3888 for our spring trade catalog. Mention code AR00. Or visit us online at SmithandHawkenTrade.com.

CIRCLE 322 ON INQUIRY CARD

▲▼ High design for man, and his best friend

555's in-house manufacturing facilities provide the firm's design team with a range of resources. Product designs include the Sling Bench, made of woven and brushed stainless steel, which may be used indoors or out (above). This oversized kennel (below) features a heavy-duty steel tube construction, and champagne gold or stardust silver baked-on powdercoat finishes. It is available from 555's sister company Z-Racks at 773/847-2414. Clients range from Calvin Klein to the Regional Transportation Authority, Chicago. 312/733-6777. 555 Design Fabrication Management Inc., Chicago. **CIRCLE 266**

◄ A client who knows

When the Centre for Indigenous Environmental Resources recently renovated its office space located in a 107-year-old building in the historic Exchange District of Winnipeg, Isobord was used for shelving, cabinetry, baseboards, workstations, and a reception desk. Isobord, an engineered strawboard product with non-formaldehyde resins, was also used as door and window trim and bookcases in the 10,000-square-foot office areas. 503/242-7345. Isobord, Portland, Ore. **CIRCLE 268**

► Presentations anywhere, anytime

In response to research showing that teams can reduce cycle time to market by 33 percent using a large visual display, Steelcase developed Huddleboard. This line includes a two-sided marker board that can be hung on any level ledge, a photo album board, mobile easel, and poster rack (right). 800/333-9939. Steelcase Inc., Grand Rapids, Mich. **CIRCLE 267**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

The Garden and Leisure Furniture Specialists
Country Casual™
QUALITY & SERVICE SINCE 1977

Solid Teakwood Site Furnishings

FREE SHIPMENT FROM STOCK NATIONWIDE

BENCHES
SWINGS
CHAIRS
TABLES
UMBRELLAS
PLANTERS
TRELLIS

CUSTOM WOOD ENGRAVING

96-page Catalogue
800-284-8325 / www.countrycasual.com
9085 Comprint Court, Suite 1730, Gaithersburg, MD 20877

CIRCLE 323 ON INQUIRY CARD

Call 4 Entries

DESIGN COMPETITION

FOR FURNITURE COMPONENTS, ACCESSORIES AND HARDWARE

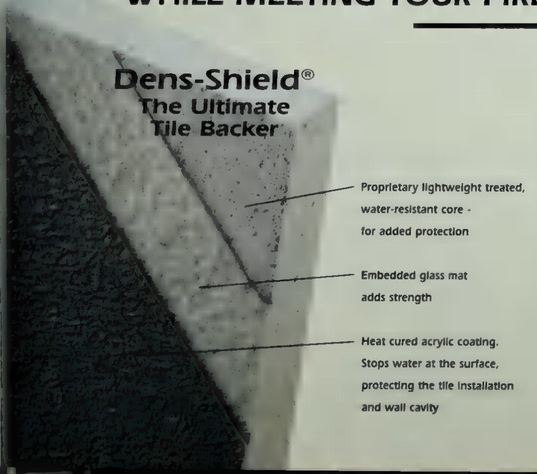
The "15th Annual Doug Mockett & Company Design Competition" is seeking entries. ☐ The competition is limited to furniture and cabinet components of any sort including hardware and accessories. Entries will be accepted until September 1, 2000, and winner(s) will be announced by December 15, 2000. ☐ A unique aspect of the competition is that only First Prizes are awarded, and there is no limit to the number of First Prize recipients. Winner(s) will receive US $1,000.00 and an engraved trophy, plus a royalty awarded for each design we accept for manufacture. ☐ All entries must be mailed to the address below REGISTERED, RETURN RECEIPT MAIL. ☐ For further information, please contact us.

Doug Mockett & Company, Inc.
Box 3333 • Manhattan Beach, CA 90266 USA
Tel: 310-318-2491 • FAX: 310-376-7650
Visit us on the Internet at www.mockett.com

CIRCLE 324 ON INQUIRY CARD

The best, high performance tile backer board on the market is Dens-Shield® the Ultimate Tile Backer from Georgia-Pacific. It installs as easily as greenboard and outperforms heavy, hard to work with cement board. Plus, Dens-Shield features a built-in surface coating that stops water at the surface, protecting the wall cavity and tile installation. Our 5/8" Dens-Shield is the only backer board that's both fire-and water-resistant and meets ASTM C1178 criteria. And, Dens-Shield is backed by a 20-year limited warranty.* For tile and non-tile, wet and high humidity installations specify Dens-Shield, the Ultimate Tile Backer.

WANT A TILE BACKER THAT PROTECTS YOUR WALL SYSTEM FROM MOISTURE RELATED PROBLEMS, WHILE MEETING YOUR FIRE RATED SYSTEM NEEDS? **NOT A PROBLEM.**


Dens-Shield®
The Ultimate
Tile Backer
Proprietary lightweight treated, water-resistant core - for added protection
Embedded glass mat adds strength
Heat cured acrylic coating. Stops water at the surface, protecting the tile installation and wall cavity

SOLVE IT WITH G-P℠

1-800-BUILD G-P
For technical information call 1-800-225-6119
http://www.gp.com

CIRCLE 325 ON INQUIRY CARD

G-P Dens-Shield®.
Performance cement board and greenboard can't touch.

Georgia-Pacific

DENS-SHIELD® is a registered trademark and SOLVE IT WITH G-P is a servicemark of Georgia-Pacific Corporation. ©[illegible] Georgia-Pacific Corporation. All rights reserved.
*See Warranty for details.

Product Briefs

▼ An ace with your space

Spacesaver Corporation now offers an enhanced line of electrical mobile storage systems, including the new Power Assist Plus. This system has all the features of the electrical mobile Power Assist system, plus optional, programmable movable or stationary aisles and multiple safety alternatives. Custom features include a remote system that controls admittance to the system, multiple aisle options and aisle resets for high-use systems, and an automatic closing feature that protects valuable materials from fire, light, and dust. All systems may be configured or programmed for ADA compliance. 800/492-3434. Spacesaver Corporation, Fort Atkinson, Wis. **CIRCLE 269**

▲ Home advantage

Amerisport II sports floor offers the visual appeal of wood with the advantages inherent to a vinyl floor. Amerisport II features a hardwood plank design that incorporates the three most popular species used in athletic installations—maple, beech, and oak. The wear layer is ⅓ thicker than its predecessor, and it is reinforced with polyurethane to provide the right amount of surface friction. 800/225-6500. Tarkett Inc, Whitehall, Pa. **CIRCLE 270**

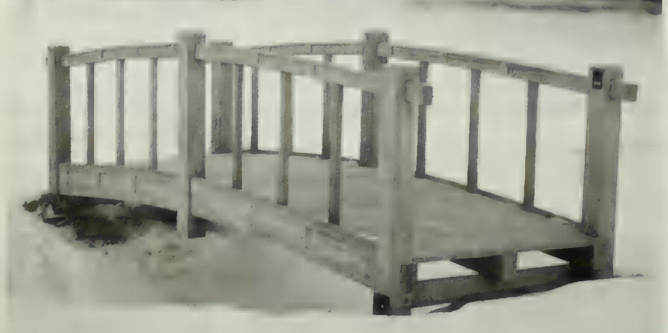
▼ Sure-footed

Bigfoot Systems is an easy-to-use footing form made of sturdy, lightweight, post-consumer, recycled, high-density polyethylene plastic. Construction tube and footing form are poured as one unit, eliminating the hassle of building individual wooden boxes and effectively shedding water away from the footing. 800/934-0393. F&S Manufacturing, Nova Scotia, Canada. **CIRCLE 271**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

For *Elegance* and **Durability**

CONTINENTAL®
HARDWOOD BRIDGES



Naturally Durable Hardwood Bridges.
Maintenance friendly and requires no preservative treating.
Customized to compliment your architectural statement.

1-800-328-2047

CONTINENTAL™ BRIDGE

www.continentalbridge.com E-mail: conbridg@continentalbridge.com

CIRCLE 326 ON INQUIRY CARD

Attention AIA Convention Attendees:

You are cordially invited to an **Open House and Tour** of the AIA National Convention Legacy Project

The Architecture and Design
Charter High School
of Philadelphia
Saturday, May 6, 2000
10:00 am until 2:00 pm
105 South 7th St.
(entrance on Sansom St.)
Philadelphia, PA

Be sure to visit the exhibit in the Reading Terminal Train Shed.

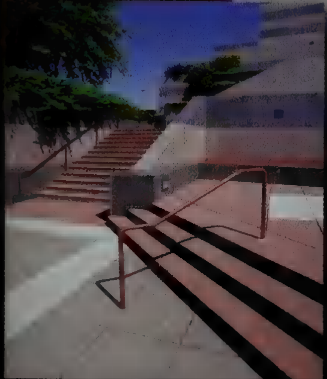
For more information on how you can support the Charter High School, please contact Pat Schwartz at AIA Philadelphia,
215/569-3186.

AIA PHILADELPHIA

adchsp

WAUSAU TILE

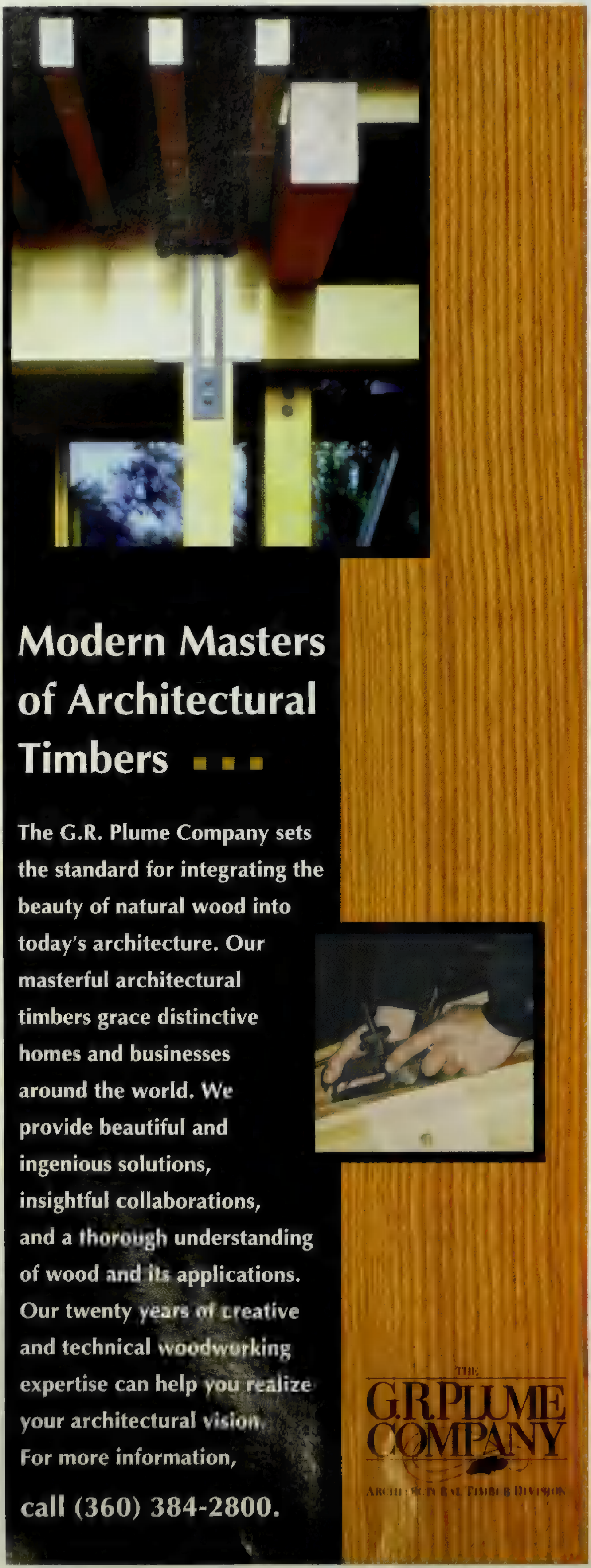
THE SINGLE SOURCE FOR
PRECAST CONCRETE PAVERS,
TERRAZZO TILE &
CUSTOM PRODUCTS



WAUSAU TILE

P.O. Box 1520
Wausau, WI 54402-1520
800-388-8728
Fax 715-359-7456
www.wausautile.com

CIRCLE 327 ON INQUIRY CARD



Modern Masters of Architectural Timbers ▪ ▪ ▪

The G.R. Plume Company sets the standard for integrating the beauty of natural wood into today's architecture. Our masterful architectural timbers grace distinctive homes and businesses around the world. We provide beautiful and ingenious solutions, insightful collaborations, and a thorough understanding of wood and its applications. Our twenty years of creative and technical woodworking expertise can help you realize your architectural vision. For more information,

call (360) 384-2800.

THE G.R.PLUME COMPANY
ARCHITECTURAL TIMBER DIVISION

CIRCLE 328 ON INQUIRY CARD

Product Literature

Artist directory

GUILD.com has published the 15th annual *Architect's Sourcebook*. Focused on architectural arts and sculpture, this directory helps architects find the right professional artist for a commission project. 877/34-GUILD. The Guild, Madison, Wis. **CIRCLE 272**

Ceiling and wall product guide

Armstrong's new catalogue features ceiling system and acoustical wall performance criteria, product information, and design considerations. 888/CEILINGS. Armstrong World Industries Inc. Lancaster, Pa. **CIRCLE 273**

Exterior color design software

Norandex Building Products offers two interactive design software packages that allow builders and remodelers to show customers the different exterior looks possible by using Norandex vinyl siding and accessories. 800/528-0942. Norandex Inc., Macedonia, Ohio. **CIRCLE 274**

Commercial insulation catalogue

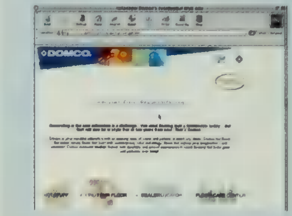
CertainTeed is offering a 50-page, four-color brochure featuring its new commercial insulation product line, CertaPro. The brochure also offers guide specifications for commercial building insulation as well as a glossary of thermal, acoustical, and pre-engineered metal building terms. 800/723-4866. CertainTeed Corporation, Valley Forge, Pa. **CIRCLE 275**

Roofing systems catalogue

The 2000 Modified Bitumen Roofing Systems catalogue describes the complete line of Siplast's engineered roofing systems in detail, including Paratread, the SBS-modified bitumen walkpad. 800/922-8800. Siplast, Irving, Tex. **CIRCLE 276**

NEW SITES FOR CYBERSURFING

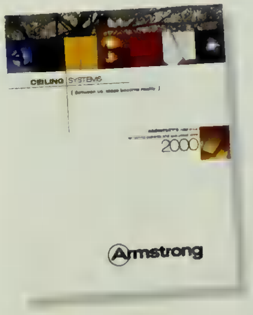
New residential flooring section on Domco's site **www.domco.com**



Thomas Register will distribute its CADBlocks content through **www.buzz.com**

Edison Price Lighting has joined this marketplace for the commercial construction industry **www.c-z.com**

Outdoor commercial furnishings site includes CAD details and CSI specifications **www.landscapeforms.com**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

IT COULD BE WORSE.

YOU COULD BE HAVING OUR

ANNUAL CERTIFICATION EXAM.

Compared to our AISC–MB certification exam, your annual checkup is no sweat.

Each year, every member is required to pass a thorough engineering and manufacturing audit that combines a written submission and on-site inspections by an independent consulting engineer. How thorough is it? The auditors scrutinize order entry, purchasing, fabrication, and design and detail documents randomly selected from a list of 200 projects over the past six months. In addition, they probe the manufacturer's internal workings from receiving to welding to shipping.

These rigorous standards drive the quality, long-term integrity and design flexibility you demand in your metal building.

For your free AISC–MB certification brochure and more information on metal building systems, call or visit our web site today.

So, while this guy can be glad he doesn't have to sweat out our annual AISC–MB exam, you can be very glad your metal building systems manufacturer does.

MBMA
METAL BUILDING MANUFACTURERS ASSOCIATION

(216) 241-7333

www.mbma.com

CIRCLE 329 ON INQUIRY CARD

7000
Products

Choose from categories which include Commercial, Residential, Theatrical, Landscape, Photographic, Bulbs, Parts and Accessories.

Project Management

- *Catalog Wizard* will design a customized catalog to e-mail to your clients to make their selections. The original catalog can also be saved for future use for other projects.
- *Project Builder* lets you create a bill of materials to e-mail to clients.
- *Resources* allow access to a calendar of events, industry books, and other trade specific information.

Value

Trade professionals save time and money by shopping at LightingUniverse.com.

Selection • Business Tools • Value

LightingUniverse.com
"The Professional's Lighting Store"

888.404.2744 • www.LightingUniverse.com • Rep Territories Available

CIRCLE 330 ON INQUIRY CARD

Product Literature

Post-frame construction guide

A new edition of the *Post-Frame Construction Guide* has been jointly published by the Southern Pine Council, the Engineered Wood Association, and the National Frame Builders Association. The guide highlights the advantages of Southern Pine post-frame construction used in applications such as riding arenas, churches, and retail stores. Additional information is provided on fire performance, sprinklers, sound transmission, and insurance considerations. 504/443-4464. Southern Pine Council, Kenner, La. **CIRCLE 277**

A guide to glulam

A new guide from Willamette offers architects a comprehensive reference for specifying, designing with, and installing Willamette classic glulam. The 60-page guide offers product descriptions, design stress and property tables, and a glulam span guide. 888/650-6332. Willamette Industries, Inc., Portland, Ore. **CIRCLE 278**

Residential lighting CD

A new CD from Progress Lighting allows users to try special residential lighting applications on-screen and to view technical information and photographs of products. 864/599-6000. Progress Lighting, Spartanburg, S.C. **CIRCLE 279**

Historical window designs

EFCO's Replication Windows brochure features color photos of historical replication projects. The brochure diagrams how the custom-replication windows, in conjunction with EFCO Trim-All interior trim and panning system, recreate historical window designs. 800/221-4169. EFCO Corp., Monett, Mo. **CIRCLE 280**

Pool lighting guide

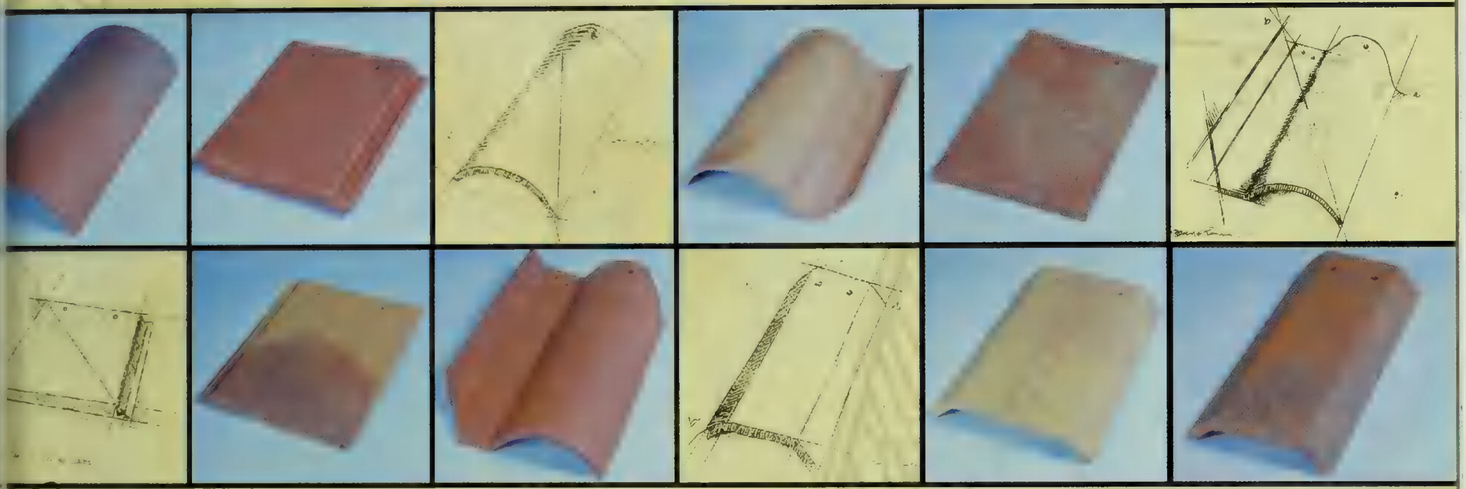
Fiberstars' 2000 product book is a comprehensive guide to fiber-optic lighting for swimming pools and spas. The book contains fiber-optic sizing and placement guides, frequently asked questions about fiber optics, specification sheets, detailed parts diagrams, and a products listing. 510/490-0719. Fiberstars Inc., Fremont, Calif. **CIRCLE 281**

Ballast brochure

MagneTek Lighting Products has introduced two new brochures highlighting its comprehensive lines of compact fluorescent and its Multi-5 HID (high-intensity discharge) ballasts. Both brochures provide specification information, including catalogue numbers and appropriate lamp applications. 800/BALLAST. MagneTek, Nashville, Tenn. **CIRCLE 282**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

Over a century of craftsmanship in clay...



Since the early 1890's knowledgeable architects, builders and home owners have selected *Gladding, McBean clay roof tile* to grace the roofs of their finest projects. This legacy continues today, as *Gladding, McBean clay roof tile* can be found throughout the world, in all types of climates, in a variety of shapes, sizes and fire-flashed blends. Now, by combining advanced technology with traditional methods, *Gladding, McBean clay roof tiles* are being offered at an even more affordable price, making them an extremely exceptional value.

Please contact us for a current price list.
All roof tiles meet or exceed ASTM 1167 Grade 1.
75 year transferable warranty.

GLADDING, McBEAN®
a division of PACIFIC COAST
building products

P.O. Box 97 Lincoln, California 95648
1-800-964-CLAY Phone: (916) 645-3341
Fax: (916) 645-1723
www.gladdingmcbean.com

GMcB®

CIRCLE 332 ON INQUIRY CARD

ARCHITECTURE
Entry deadline: August 4, 2000
Submission deadline: September 1, 2000

INTERIOR ARCHITECTURE
Entry deadline: August 18, 2000
Submission deadline: September 15, 2000

REGIONAL & URBAN DESIGN
Entry deadline: September 8, 2000
Submission deadline: October 6, 2000

TWENTY-FIVE YEAR AWARD
Submission deadline: September 1, 2000

Call 202.626.7586 for detailed entry information, or go to www.aiaonline.com.

CELEBRATING THE BEST IN CONTEMPORARY ARCHITECTURE

the architecture
twenty five interiors
year award urban design

The Smith House: Architect–Richard Meier & Partners; Owner–Carole Littlefield; Photographer–Ezra Stoller and Scott Frances/Esto

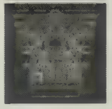
AIA

NATIONAL
BUILDING
MUSEUM

The National Building Museum is pleased to announce the 2000 Honor Award

Setting a Standard
for Design and Innovation:
A Salute to Gerald D. Hines

June 20, 2000 • National Building Museum
401 F Street, NW • Washington, DC 20001



The National Building Museum in Washington, D.C. will present its 2000 Honor Award to Gerald D. Hines, one of America's premier developers. Mr. Hines will be recognized for his long-standing commitment to the highest standards of design, construction, and building management. The award will be presented at an elegant dinner in the Museum's spectacular Great Hall. Leaders from business, real estate, architecture, engineering, and construction will be in attendance.

For information about tickets or sponsorship opportunities please contact Lisanna Novey (202) 272-2448, extension 3454, e-mail lnovey@nbm.org or visit our website at www.nbm.org.

Chairs and Co-Chairs include:
Harold L. Adams
James A. Baker III
David M. Childs
Peter C. Forster
Frank O. Gehry
M. Arthur Gensler, Jr.
Debra Lehman-Smith
Cesar Pelli
Jerry I. Speyer
Robert A. M. Stern

Other Event Leadership includes:
Benefactors
Baker Botts, LLP
Goldman, Sachs & Co.
TishmanSpeyer Properties, Inc.
Turner Construction Company

Patrons
Cigna Investment Management
Cornerstone Properties Inc.
Kohn Pedersen Fox Associates, PC
McGraw-Hill Construction Information Group
Pickard Chilton
RTKL Associates Inc.
Skidmore, Owings & Merrill, LLP
UNICCO Service Company

Sponsors
Bechtel Group, Inc.
The Clark Construction Group, Inc.
Charles E. Smith Management, Inc.
The Truland Foundation
Urban Land Institute
The Whiting-Turner Contracting Company

From No Clear Directions to Order And Simplicity.

At Last, One Drawing Standard.

Don't you feel better?

The Uniform Drawing System™
Now part of the new U.S. National CAD Standard.

The Construction
Specifications Institute

800.689.2900
www.csinet.org

CIRCLE 334 ON INQUIRY CARD

from traditional to hi-tech, from old-fashioned to contemporary, from luxurious to affordable, from standard to custom, from monochrome to color, from relaxing to provoking — Canterbury International has been your source of high quality clocks for over 40 years!

For a complete catalog of clocks and other products call Canterbury International 1-800-935-7111 or look us up at www.sweets.com or www.caddetails.com
CIRCLE 333 ON INQUIRY CARD

"We're moving more and more to the Internet. Without question, sweets.com makes us much more efficient and successful."
"The future is sweets.com"
Guy Geier, AIA
President,
The Hillier Group
Visit Us at AIA Expo2000
Booth #1518
Register at sweets.com during Expo and get a [illegible] gift.
Sweet's Group
McGraw-Hill Construction Information Group

Leading the Construction Industry into a New Century.

Sweet's is your connection to the construction marketplace. 24 hours a day, 365 days a year. From the comprehensive information of Sweet's Catalog Files to the leading edge technology of sweets.com, Sweet's provides the tools you need to help you work faster, smarter and more profitably.

Register Now at **www.sweets.com** and Make Sweet's Work for You.

Gain access to some of the most powerful research and productivity tools available on the Internet, including:

Comprehensive Product Information: With over 25,000 products from over 1,600 manufacturers, sweets.com gives you a searchable edition of Sweet's Catalog Files, online.

Construction News Updates: Up-to-the-minute construction news sent via email keeps you informed and one step ahead of what's happening in today's construction marketplace.

Sweet's BuyLine® online: Access local manufacturer's rep data and have your request for information or a proposal e-mailed directly—just click the BuyLine link and get contact information in an instant.

Downloadable CAD Files: Our database of over 13,000 CAD details lets you import specification information and schematics directly into your files.

Product News: The latest products and industry trends, updated and accessible, in an instant.

Any Format. Any Time You Need It.
Sweet's Is the Shortest Distance Between You and the Construction Marketplace.

Register Now at www.sweets.com.

DIRECTORY CATALOG FILES CD SWEETS.COM PRODUCT NEWS

Sweet's
The Construction Marketplace℠

The Most Manufacturers.
The Most Buyers.
The Most Opportunity.

CIRCLE 335 ON INQUIRY CARD
www.sweets.com 1.800.422.2258

A Division of The McGraw-Hill Companies

Business Week
Aerospace Daily
Airports
Architectural Record
ATC Market Report
Aviation Daily
Aviation Week & Space Technology

THE McGRAW-HILL COMPANIES

Biotechnology Newswatch
California Construction Link
Coal Week
Colorado Construction
Electric Utility Week
Electric Utility Week International
Electrical World
Engineering News-Record
Federal Technology Report
Global Power Report
Industrial Energy Bulletin
Inside Energy/with Federal Lands
Inside F.E.R.C.
Inside F.E.R.C.'s Gas Market Report
Inside N.R.C.
Intermountain Contractor
Louisiana Contractor
Metals Week
Midwest Construction
New York Construction News
Northwest Construction
Nucleonics Week
Platt's Petrochemical Report
Platt's Oilgram News
Platt's Oilgram Price Report
The Physician & Sportsmedicine
Postgraduate Medicine
Power
Power Markets Week
Securities Week
S&P's Emerging & Special Situations
S&P's Metals Week
Southwest Contractor
Texas Construction
Utility Environment Report
The Weekly of Business Aviation
. . . and more

The advanced information source that leads to action.

Publications Online

Get in Touch

Available online through:

Lexis-Nexis® · Dialog® · Dow Jones Interactive®

ProQuest Direct® · Northern Light® [Business Week
Engineering News-Record]

Reuters Business Briefing Search® [18 Energy Newsletters]

For additional information contact:

Andrea D. Broadbent
The McGraw-Hill Companies
Publications Online
148 Princeton-Hightstown Road, N-1
Hightstown, NJ 08520-1450 U.S.A.

Tel: (609) 426-5523
Fax: (609) 426-7352
e-mail: andreab@mcgraw-hill.com

The **McGraw-Hill** *Companies*
Keeping the world up to speed

Dates & Events

Calendar

A Way of Life: Apprenticeship with Frank Lloyd Wright, 1948-49
Washington, D.C.
May 4–June 23
Fifty-five color slides taken by former Wright apprentice Lois Davidson Gottlieb are teamed with her commentary on the experience and with first-hand observations for this display. The Octagon. 202/638-3105.

James Welling: Photographs 1974-1999
Columbus, Ohio
May 6–August 13
Prominent in this expo of 129 images by Welling are prints from the artist's small-scale *L.A. Architecture* series (structures in Santa Monica and Venice) and detail photographs of massive buildings by H. H. Richardson. Wexner Center for the Arts, The Ohio State University. 614/292-0330.

Land, Sea, and Air: Digital Maps Survey
New York City
Through May 12
Curated by Michael Silver and Marc Tsurumaki, the exhibition accompanies programs on the aesthetic, cultural, and political effects of new forms of mapping. Parsons School of Design. 212/229-8955.

Making Sense of Place
Portland, Ore.
May 17–20
The Society for Environmental Graphic Design's annual three-day conference explores the roles played by environmental graphic designers of wayfinding, placemaking, and experience-enhanced environments. 202/638-5555.

Public Architecture Exhibitions
Philadelphia
May 4–6
Throughout the city, 12 individual exhibitions coincide with the AIA National convention, themed *New Century, New Vision: Livable Communities for America's Future*. AIA Philadelphia. 215/569-3186.

See the U.S.A.: Automobile Travel and the American Landscape
Washington, D.C.
Through May 7
This exhibition celebrates roadside architecture and the culture of the automobile, featuring photos by John Margolies, author of 10 books on the subject. National Building Museum. 202/272-2448.

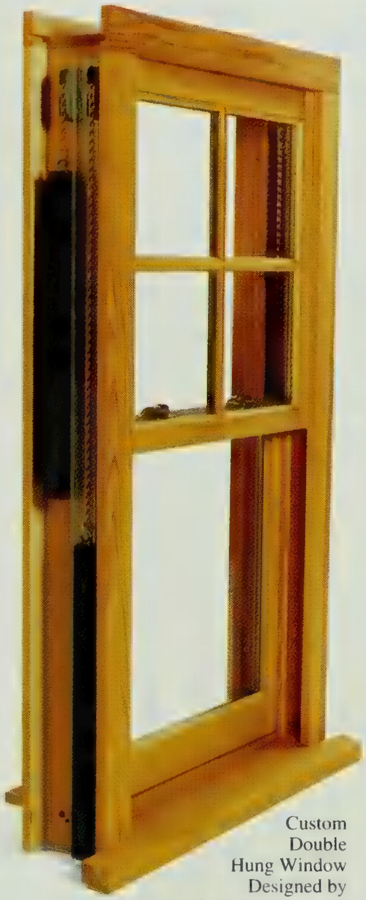
For Art's Sake: Recent Developments in Museum Design
Fort Worth
May 13
At this all-day symposium, talks will be presented by architect Mario Bellini, critic Martin Filler, museum director Kurt W. Forster, and historian Charles Jencks. Kimbell Art Museum. 817/332-8451.

Ten Shades of Green
New York City
Through May 13
Critic Peter Buchanan has curated this major traveling exhibition of sustainable design work by Norman Foster, Thomas Herzog, Michael Hopkins, and Francoise Jourda. The Architectural League of New York. 212/753-9173.

Spirited Away: A Design Odyssey
New York City
May 17
This one-night-only benefit exhibition and reception boasts techno-interior vignettes by architects Henry Stolzman, Arthur Gensler, and Laurinda Spear—among others. Steelcase Worklife New York. 800/392-8654.

Finance for Designers
Boston
May 18
This class explores core concepts and principals, record-keeping and documentation, and key actions that contribute to profitability. Young Designers Professional Development Institute. 617/951-0845.

International Contemporary Furniture Fair
New York City
May 20–23
Sponsored collectively by *Metropolis, Abitare, Interni, Intramuros*, and *Wallpaper* magazines, this large American exposition centers on high-design furniture and interiors product introductions. Jacob K. Javits Center. 914/421-3200.



Custom
Double
Hung Window
Designed by
Kurt Dubbe A.I.A.
Custom Manufactured
by... **BERGERSON**

It isn't that we mill our Export Grade Clear Western Red Cedar to a four thousandth of an inch tolerance that defines our uniqueness. It's that every window and door is custom manufactured to your specifications.

When ordinary run of the mill just won't do, and cost is a consideration but not an issue . . .

CEDAR WINDOWS & DOORS
By BERGERSON

P.O. Box 184, Hammond, OR 97121
Tel. 503/861-3534 • Fax 503/861-0316
E-mail bcw@pacifier.com
Visit our web page www. bergersonwindow.com
Call 1-800-240-4365
For FREE BROUCHUE and more
information...We're ready when you are.

CIRCLE 365 ON INQUIRY CARD

Dates & Events

Brigitte Shim
Shim-Sutcliffe Architects
Los Angeles
May 22
The award-winning Toronto architect lectures in Perloff hall. University of California at Los Angeles. 310/825-7857, x58.

Building Community-Based Commerce
New York City
May 24
At this evening forum, panelists Barry Benepe and David Sweeney examine small-scale urban economic development as the alternative to further globalization. CUNY Graduate Center. 212/817-7292.

Giacometti
Barcelona
Through May 28
The sculptor's paintings and a pivotal sculpture, *L'objet invisible* (1934), join his famous stick figures on display. Fundació Caixa Catalunya. 93/484-5900.

Ralph Rapson: Sixty Years of Modern Design
Washington, D.C.
Through May 28
The first comprehensive exhibit of work by this Midwestern modernist, whose achievements encompass architecture, furniture design, and urban planning. The Octagon. 202/638-3105.

Oswald Haerdtl: Architect and Designer 1899-1959
Vienna
31 May–July 14
This exhibition of Haerdtl's long career in Austria spans from early modernism through the World War II period and into the fifties. Architecture Centre Vienna (Architektur Zentrum Wien). 43-1/522-3115.

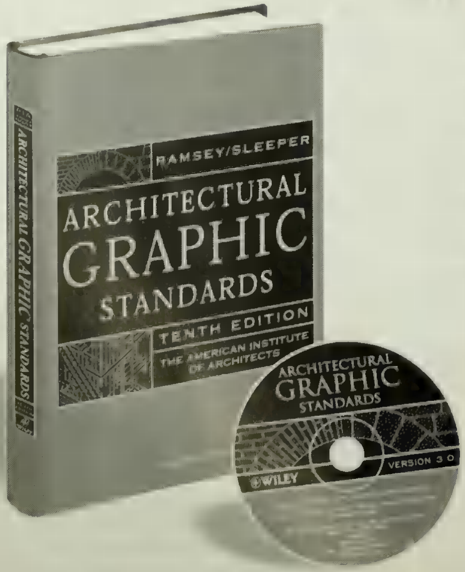
Anything Conference
New York City
June 1–3
This last annual conference of the 10-year A.N.Y. series features speakers Elizabeth Diller, Frank Gehry, Hani Rashid, Arata Isozaki, Saskia Sassen, Bruce Mau, Zaha Hadid, Jean Nouvel, Ben van Berkel, and Rem Koolhaas among others. Solomon R. Guggenheim Museum. 212/423-3587.

Chicago Architects
Chicago
June 3–March 2001
Selected architectural drawings on display from the permanent collection are linked with the Institute's oral histories of 50 Chicago designers, including Mies van der Rohe, Harry Weese, Paul Schweikher, and Myron Goldsmith. The Art Institute of Chicago. 312/443-3600.

Harnessing Technology and Utilizing Intranet/Internet Based Communications Solutions to Manage Construction Projects and Claims
Atlantic City, N.J.
June 5–6
This day-and-a-half seminar is presented by Construction Education Management Corporation. Hilton Casino Resort. 800/257-8677.

Retail Lighting Conference
Fort Worth
June 7–9
This gathering, titled "Illuminate 2000," promises the latest techniques and hands-on learning for lighting designers, specifiers, and project managers. Texas Christian University. 800/828-7134.

ANNOUNCING THE NEW, EXPANDED AND UPDATED ARCHITECTURAL GRAPHIC STANDARDS, TENTH EDITION AND CD-ROM VERSION 3.0.


ARCHITECTURAL GRAPHIC STANDARDS
RAMSEY/SLEEPER
ARCHITECTURAL GRAPHIC STANDARDS
TENTH EDITION
THE AMERICAN INSTITUTE OF ARCHITECTS
ARCHITECTURAL GRAPHIC STANDARDS
VERSION 3.0
WILEY

Finally, it's here: the new ***Architectural Graphic Standards, Tenth Edition,* with CD-ROM Version 3.0.**

With more than half of its 1,088 pages updated or revised, the *Tenth Edition* is now a better tool than ever, designed to carry architects well into the next century. Updated and new material covers new security designs, seven new building systems, new Green Building and ADA guidelines, MasterFormat™* upgrade to the latest 1995 edition, new paints and coatings, new lighting designs—and much more.

CD-ROM Version 3.0 designed for unparalleled productivity. This powerful electronic companion tool contains every word, every drawing, every reference and every spec found in the book, and much more. With its five powerful search engines, CAD-format drawings, and Web links for lightning-quick access to industry information on the Internet, the CD-ROM represents the fastest, most comprehensive collection of productivity tools available. Each book comes with a fully functional demo CD-ROM; ordering the book and full CD-ROM package saves you $75 off the regular price!

Order now and save $75. For a limited time†, you can save $75 off the regular price when you order the book and fully functional CD-ROM package for $600. Book available separately at $225, $25 off regular price. CD-ROM also available separately at $425.

To order, call toll free 1-800-225-5945. In Canada, please call 1-800-567-4797. Call Monday–Friday, 8:30 a.m. to 5:30 p.m., ET

For more details, visit our Web site: www.wiley.com/ags

AIA

*MasterFormat™ is a joint publication of the Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC) and is used with permission.
†Special Offer prices shown are valid through April 30, 2000. *Ramsey/Sleeper Architectural Graphic Standards, Tenth Edition.* Prepared by The American Institute of Architects. Edited by John Ray Hoke, Jr., FAIA
Architectural Graphic Standards CD-ROM Version 3.0 developed by Jordani Multimedia and published by John Wiley & Sons, Inc. ©2000 John Wiley & Sons.

WILEY
Publishers Since 1807

CIRCLE 338 ON INQUIRY CARD

OLGA DE AMARAL

UMBRA 15 1999
fiber, gold leaf, acrylic
77" x 59"

Please inquire about the
availability of other works
and special commissions

Background: Santa Fe Art Institute
Architect: Ricardo Legorreta

Bellas Artes
653 Canyon Road
Santa Fe, NM 87501
505-983-2745

CIRCLE 339 ON INQUIRY CARD

Dates & Events

Congress of the Future of the Architect
Barcelona
June 7–11
An international conference explores three areas: the impact of the computer in relation to the brain and space, land policy and the city of tomorrow, and "analysis of the cross-cultural and interdisciplinary spatial dimension of our social environment." Universitat Politècnica de Catalunya. 93-401-63-88.

Reinventing Space: Beyond the Boundaries of the Twentieth Century
Jerusalem, Israel
June 11–22
The fifth (since 1992) Jerusalem Seminar in Architecture brings together international architectural experts Wolf Prix, Robert A.M. Stern, Bernard Tschumi, Kenneth Yeang, Cecil Balmond, Thom Mayne, Enrique Norten, Carmi Pinos, and Bernard Tschumi—with a response by theorist Charles Jencks. Jerusalem International Convention Center. 972-3-512-0000.

NeoCon World's Trade Fair 2000
Chicago
June 12–14
Some 800,000 square feet of space is dedicated to commercial furnishings, services, forums, and networking opportunities in this annual must-see stop for design and construction professionals. Merchandise Mart. 800/677-6278.

50th International Design Conference: The Spirit of Design
Aspen
June 14–17
To investigate meanings in architecture, this three-day event explores broad themes: the inner spirit; beauty, aesthetics, and perception; and meaning (or the "chi" factor). Speakers will address a range of topics within these themes. 970/925-2257.

Structure and Surface: Contemporary Japanese Textiles
San Francisco
Through June 20
Japanese masters combine traditional techniques with modern industrial methods, in woven metals and other materials suitable for interior design and clothing. San Francisco Museum of Modern Art. 415/357-4000.

Buildings/NY Show
New York City
June 20–21
The 20th anniversary of this annual construction industry event. Jacob Javits Convention Center. To register call 888/334-8702, or go to www.buildingsny.com.

Construction Specifiers Institute 2000 Convention and Exhibition
Atlanta, Ga.
June 22–25
Educational seminars and demonstrations introduce nonresidential construction products, materials, and services offered by some 600 exhibitors. Georgia World Congress Center-East. 800/689-2900.

Bilbao: The Transformation of a City
Chicago
Through July 16
Models, plans, photographs, and drawings illuminate a dozen architectural projects—Frank Gehry's Guggenheim, Norman Foster's subway, Santiago Calatrava's observation tower/airport—that have recently energized the ancient city in Northern Spain. The Art Institute of Chicago. 312/443-3600.

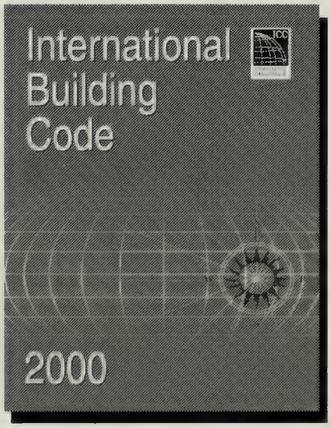
Piet Mondrian: The Transatlantic Paintings
Cambridge, Mass.
Through July 22, 2001
Some 15 late paintings by the master abstrac-

Get "Up to Code" Fast
with the QuickStart Solution

Only from ICBO

Building departments across the United States are buying and adopting the new 2000 *International Building Code*.

That's why ICBO created the QuickStart solution to help you get up to speed on the new code requirements fast. When you purchase an *International Building Code*® (IBC) from ICBO, we give you a complimentary copy of *IBC Code Highlights—A QuickStart Guide to the Code* and a set of Turbo Tabs. The *QuickStart Guide* will streamline your understanding of the IBC. The Turbo Tabs mark key sections of the code for easy access to the section you need. This all means faster, easier, more confident application of the code provisions in your design, plan review and inspections. Bottom line, these products will save you money and time.



QuickStart Solution (2000 IBC, IBC Code Highlights—A QuickStart Guide to the Code, Turbo Tabs)

Soft Cover Item No. 100S2K $77.80
(ICBO Member Discounts Available)
Loose Leaf Item No. 100L2K $87.80

Order Today!
(800) 284-4406
www.icbo.org

More Exclusive Offers from ICBO

- ✓ 2000 IBC Exclusive Hard Cover Edition - Quantities are limited.
- ✓ ASTM Referenced Standards - Contains all ASTM Standards that are referenced by, but not included in, the 2000 IBC. Check out the ASTM/IBC Package.
Call or visit our web page for details and pricing.

More people buy code products from ICBO than from anywhere else in the world!

CIRCLE 340 ON INQUIRY CARD

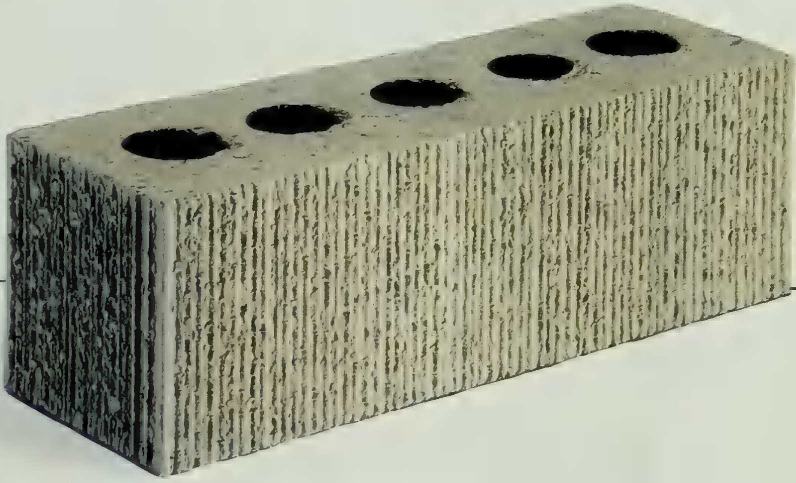
Sixty second guide to Belden Brick:

COLORS

Belden Brick is made in over 116 colors that include 2 choices in black, 28 browns, 7 tans, 8 buffs, 3 creams, 18 grays, 16 pinks, 26 reds, and 8 whites.

In addition, it is made in 12 different textures, although not all our brick is made in the same range of textures.

Belden also offers a choice of extruded brick or molded brick (with the character of hand-made brick.) Each category includes a wide range of colors and textures providing more than adequate design latitude.



SIZES

Belden Brick is predominantly made in thirteen different sizes, representing the spectrum of Belden Brick colors and textures. Your design opportunities are broadened by the availability of virtually every Belden Brick color choice as pavers.

SHAPES

We've made hundreds of different shapes to provide special structure details, and a week seldom passes without our custom-making a new special shape to meet individual design requirements. If you need an "impossible" special shape to complement the brick structure you're planning, call Belden. We've seen the impossible become reality.

CIRCLE 341 ON INQUIRY CARD

BELDEN

THE BELDEN BRICK COMPANY

(330) 456-0031
An ISO 9002 Registered Company
Canton, Ohio 44701-0910

tionist will accompany a display of two years' technical research into the artist's methods. Harvard University Busch-Reisinger Museum. 617/495-9400.

Future Focus 2000
Houston
July 22–26
A large annual gathering where futurists explore new business strategies and the challenge of succeeding in the networked modern global marketplace. Westin Galleria. 800/989-8274.

Shigeru Ban: A Paper Arch
New York City
Through August 1
Hot Japanese architect Ban will span the museum's sculpture garden with a high, 5,525-square-foot parasol fabricated from the thin waterproof paper tubes he terms "evolved wood." The Museum of Modern Art Sculpture Garden. 212/708-9750.

Gwathmey Siegel & Associates Exhibition
New York City
Through August 14
A display of 14 institutional projects is augmented by a 50-foot wall that surveys the entire practice of the firm. The Graduate Center, The City University of New York. 212/947-1240 x117.

Skyscrapers: The New Millennium
Chicago
August 19–January 15
Architectural models and drawings show some 50 high-rises currently under construction or recently completed. The Art Institute of Chicago. 312/443-3600.

Frank Lloyd Wright: Windows of the Darwin D. Martin House
Washington, D.C.
Through August 20
An exhibition of some 70 art-glass windows, doors, and skylights (both originals and reproductions) that Wright created for the house in Buffalo. National Building Museum. 202/272-2448.

Giorgio Morandi Etchings
New York City
Through August 22
Seen in this selection of 16 works from the period 1912-1945 is the Italian artist's subdued and architectonic formal style. The Museum of Modern Art. 212/708-9400.

Kahn's Modern Monuments
New York City
Through August 22
Drawings and models explore a pair of the mid-century architect Louis I. Kahn's favored themes: abstracted ancient monumentalism and massive layered enclosure. The Museum of Modern Art. 212/708-9400.

Modern Living 1
New York City
Through August 22
A hundred design objects, architectural drawings, and models explore the clarity, efficiency, and hygiene advocated by designers Gerrit Reitveld, Eileen Gray, and others who inspired the course for modernism. The Museum of Modern Art. 212/708-9400.

Design Diplomacy: Public Policy and the Practic of Architecture
Copenhagen
September 6–9
At this conference, a panel of architects offer an in-depth look at how architects can shape sound public policy as community leaders. Cosponsored by the McGraw-Hill Construction Information Group; a division of the McGraw-Hill Companies, New York. 888/273-8017.

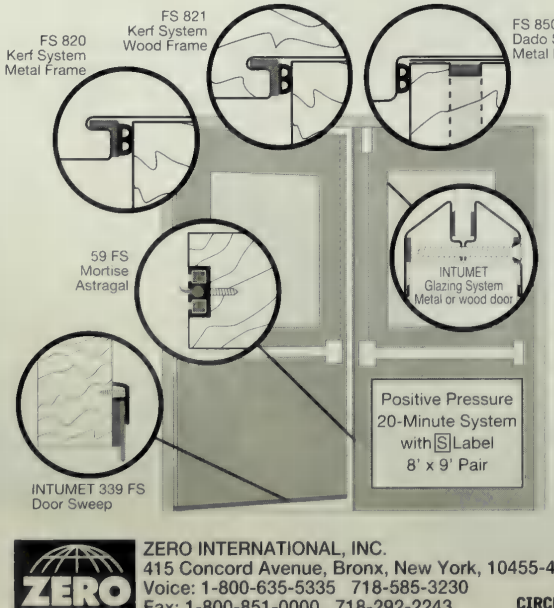
Positive-Pressure Compliance Doesn't Have to be a Gamble. Zero's Assembly Solutions Eliminate the Guesswork.

INTUMET 20-minute intumescent gasketing systems from ZERO are designed to provide the essentials for specifying Smoke & Draft Control doors under the UBC 7-2 1997 Fire Door Standard:

- ***Complete assemblies with fully tested features.*** We provide more than positive-pressure ratings and S-labels. ZERO's systems are engineered and tested for assembly labels. So the entire building team can be confident that door, frame, hardware and lite kits are listed and fully compatible.
- ***Design freedom.*** Frame options, hardware applications and door functions using ZERO's systems are vitually unlimited—for pairs as well as singles.
- ***Reliable, unobtrusive gasketing.*** Our gasketing systems are mortised or concealed to ensure proper function and durability in the installed opening. That safeguard gives essential assurance for inspecting code officials, while avoiding the adverse design impact of surface-applied solutions.

In addition to our 20-minute systems, Zero offers a variety of intumescent gaskets for other door assemblies and higher ratings. We also formulate and manufacture intumescent materials for other applications and needs.

Zero makes positive-pressure compliance a positive experience. Contact us for the names of manufacturers and distributors licensed to provide INTUMET gasketing solutions. Or call our Engineering Department for more information.



FRAME OPTIONS
- Standard Metal
- Kerf Metal
- Kerf Wood

DOOR OPTIONS
- Single
- Pairs in same direction
- Double Egress

HARDWARE OPTIONS
- Concealed Fire Exit
- Surface Fire Exit
- Manual/Automatic Flush Bolts
- Concealed Overhead Closer

LOCK OPTIONS
- Cylindrical
- Mortise
- Panic
- Vertical

ZERO INTERNATIONAL, INC.
415 Concord Avenue, Bronx, New York, 10455-4801
Voice: 1-800-635-5335 718-585-3230
Fax: 1-800-851-0000 718-292-2243
E-Mail: Zero@zerointernational.com
Website: http://www.zerointernational.com

CIRCLE 342 ON INQUIRY CARD

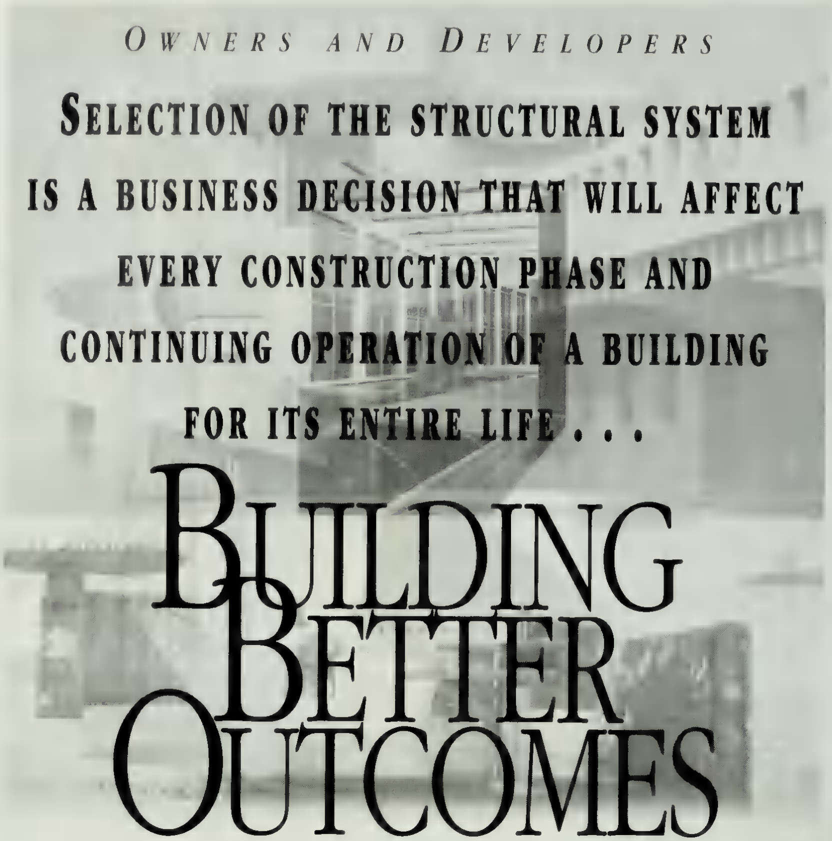
©2000 ZERO

Determination

Few people would have the guts to walk away from a successful career as an Executive Chef, to start their own business selling recipes over the Internet. But then again, few people can make a Pineapple Upside Down Cake this good.

SmartAge.com℠ is the place for small business eCommerce on the Web, so you'll be attracting new customers in no time. We've already helped over a million small businesses make money on the Web. We can help yours, too. No matter what kind of small business you've cooked up. SmartAge.com. Smart commerce for small business.

SmartAge.com Corp. All rights reserved



OWNERS AND DEVELOPERS

SELECTION OF THE STRUCTURAL SYSTEM IS A BUSINESS DECISION THAT WILL AFFECT EVERY CONSTRUCTION PHASE AND CONTINUING OPERATION OF A BUILDING FOR ITS ENTIRE LIFE . . .

BUILDING BETTER OUTCOMES

HOW THE STRUCTURAL SYSTEM CAN AFFECT A BUILDING PROJECT IN FIVE VITAL AREAS . . .

- Early occupancy
- Lower cost
- Market appeal
- High performance, low risk
- Building for the information age

You can improve structures in terms of profitability, market appeal and operations. Whether a structure is strictly an investment or your operations facility, you will find out how to focus on a better value and a smoother building process for everyone. Using a representative example, the selection of a structural system, this seminar offers the insight you need to manage and produce better outcomes for your building project.

Find out more about BUILDING BETTER OUTCOMES using reinforced concrete. Call or fax for information about the Building Better Outcome Seminar Series . . . it's FREE!

LEARNING UNITS AWARDED

CRSI

Concrete Reinforcing Steel Institute
933 N. Plum Grove Road
Schaumburg, Illinois 60173-4758
847/517-1200 Fax: 847/517-1206
Website: www.crsi.org

© 2000 CRSI

CIRCLE 343 ON INQUIRY CARD

Dates & Events

At the End of the Century: 100 Years of Architecture
Los Angeles
Through September 24
In 21 parts, this massive international exhibition organized by MOCA surveys countless architectural photographs, scale models, drawings, furnishings, clips, and artifacts. The Museum of Contemporary Art at the Geffen Contemporary. 213/621-2766.

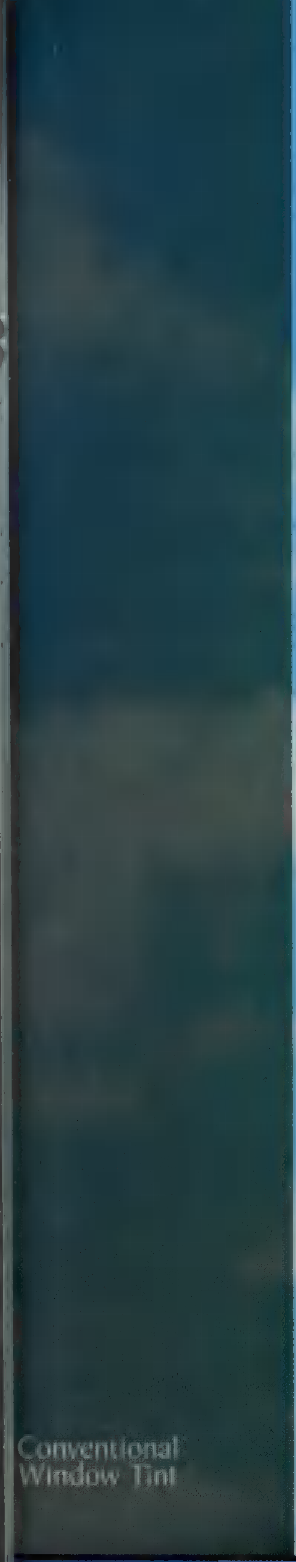
Modern Living 2
New York City
Through September 26
Beginning after World War II, figures such as Eames, Nelson, Saarinen, and Aalto adapted industrial technology for the manufacture of rational, functional, and affordable domestic objects on display. The Museum of Modern Art. 212/708-9400.

Rail-Volution 2000: The Livable Metropolis, Prospects, and Profits
Denver
October 4–8
A definitive national conference on the building of livable communities comprises hands-on workshops, case studies of built examples, workshops, and moderated panel discussions. Adams Mark Hotel. 800/788-7077.

Preserving the Recent Past II
Philadelphia, Pa
October 11–13
Sponsored by the National Park Service, the General Services Administration, the Society of Architectural Historians, DOCOMOMO, and other preservation-minded groups, this weekend of events includes 70 speakers, an exposition, tours, and a curtain wall symposium. Loews Hotel (historic PSFS Building). 202/343-6001.

Competitions

Ermanno Piano Scholarship
Entry deadline: May 31
This $10,000 scholarship open to 1999 architecture graduates offers a six-month internship with the Renzo Piano Building Workshop, in Genoa, Italy. Mail qualifications and vitae, including samples of your work, to: Renzo Piano Workshop Foundation (Ref. 9th Ermanno Piano Scholarship), Via Rubens 29, 16158 Genoa, Italy. E-mail www.rpwf.org.



COOL AND CLEAR.

V-KOOL® Finally a clear window coating that blocks up to 60% of total heat.

Until recently, there were just two ways to protect interiors from solar heat gain. You could either block the heat with a reflective window coating, or you could try a less effective tint.

Now, there's a better alternative—V-KOOL (formerly known as Solis). V-KOOL uses a patented, high tech process to embed tiny particles of exotic metals in optically clear and durable polyester film. When applied to your windows, this high tech product screens out an amazing 90% of the infrared rays responsible for heat build-up while letting in over 70% of visible light. That is almost as much heat reduction as heavy silver window films and significantly more than conventional tints. And unlike those products, V-KOOL is virtually transparent, so you are never forced to sacrifice appearance, light or clarity. By comparison heavy silver window films allow just 15 to 20% of the light to enter.

Solis®

V-KOOL also blocks 99% of harmful ultraviolet rays that can damage skin and eyes and cause materials to fade. It is ideal for new construction, or it can be retrofitted right over existing glass for dramatically improved heat protection.

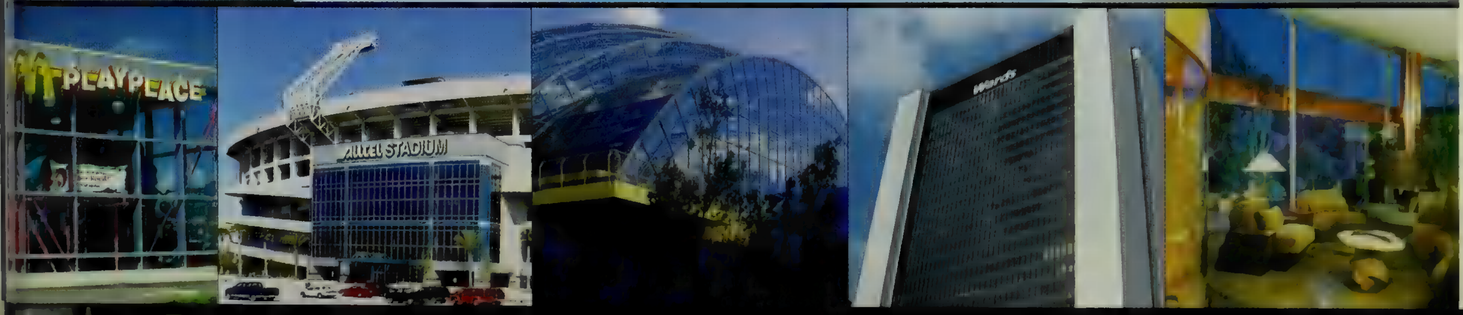
> *V-KOOL has been chosen one of the top 100 inventions of the past millennium by* Popular Science *magazine.*

V-KOOL. So cool, so clear. For more information about how it can reduce solar heat while giving you a clear glass appearance, call 1-800-SUN-2-HOT.

V-KOOL®

The Clear Sun Barrier for Your Building

CIRCLE 141 ON INQUIRY CARD



From start to finish, you can count on Anchor Wall Systems for the critical support you need to make every retaining wall project a success. Our international network of producers is there to help you deliver the right product and the right solution, right on time. Behind the scenes, manufacturing and design specialists provide technical and engineering support to help you achieve outstanding results on every wall, every job, every time.

With Anchor, you get more than superior retaining wall systems. It's the solid support and service behind Anchor walls that makes you and your project stand out from the rest. Give your business the Anchor advantage. After all, you're not just building walls, you're building your reputation.

Call **1-877-295-5415** *for the Anchor Wall Systems Dealer near you.*

Visit our web site at www.anchorwall.com

ANCHOR WALL SYSTEMS™ ®

5959 Baker Road, Suite 390 Minnetonka, MN 55345-5996

CIRCLE 345 ON INQUIRY CARD

Dates & Events

Shakertown Photo Contest

Entry deadline: May 31

Architects, builders, and homeowners are invited to compete for pullover windbreakers by submitting photographs of residential, light-commercial, remodeling, and multi-family projects built with Shakertown cedar siding panels. 253/661-7333.

***Southern Living* Home Awards**

Entry deadline: May 31

Completed, furnished, and landscaped homes in the Southern states (unpublished) may be submitted in a binder, with descriptions, floor plans, and a minimum of three interior and three exterior photographs. Winners will be featured in *Southern Living* magazine; homeowners will each receive $1,000. For entry information, contact Erin Broussard or Lynn Nesmith 800/366-4712, x6358.

Monument to the Third Millennium

First-stage entry deadline: June 16

At a new park in San Juan, the Puerto Rican government will spend $50-75 million on a monument to the third millennium. Five winners will receive a $10,000 stipend to develop their designs; the second-stage winner receives $50,000 and the commission. At least one member of each design team must be a registered architect in either the U.S. or Puerto Rico. Go to www.monumentcompetition.com for entry information.

The Gifu World Design Competition: Jan Ken Pon (Rock Paper Scissors)

Entry deadline: June 30

The $10,000 first prize (also, prizes of $5,000, $2,500, and $500) will be awarded to the designer of a manufacturable object "usable by the hands or made to fit in the hands." Paper, wood, ceramic, and/or metal must be used. Call 212/966-3722.

Please submit information for the calendar to ingrid_whitehead@mcgraw-hill.com.

ARCHITECTURAL RECORD: (ISSN 0003-858X) May 2000. Vol. 188, No. 5. Title ® reg. in U.S. Patent Office, copyright © 2000 by The McGraw-Hill Companies. All rights reserved. Published monthly by The McGraw-Hill Companies, 1221 Avenue of the Americas, New York, N.Y. 10020. Periodicals postage paid at New York, N.Y. RCSC and additional mailing offices. Canada Post International Publications Mail Product Sales Agreement No. 246565. Registered for GST as The McGraw-Hill Companies. GST No. R123075673. **POSTMASTER:** *Please send address changes to* ARCHITECTURAL RECORD, Fulfillment Manager, P.O. Box 566, Hightstown, N.J. 08520. **SUBSCRIPTION:** Rates are as follows: U.S. and Possessions $59; Canada and Mexico $79 (payment in U.S. currency, GST included); outside North America $199 (air freight delivery). Single copy price $8; for foreign $10. Subscriber Services: 888/867-6395(U.S. only); 609/426-5129 (outside the U.S.); fax: 609/426-7087.

Another
DRAINAGE SOLUTION
by Mortar Net™

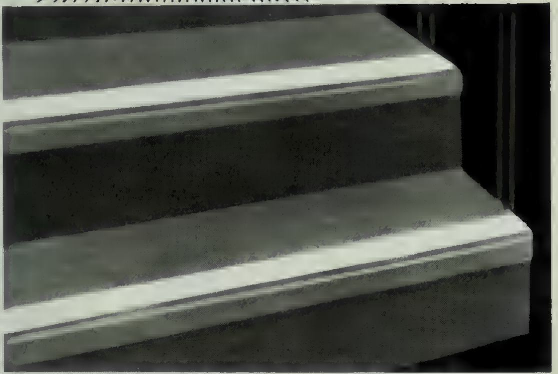
Mortar Net Block prevents water damage in single wythe concrete masonry unit (CMU) walls by breaking up mortar thereby allowing proper drainage to the weep holes. For more information, please contact Mortar Net at 800-664-6638 or visit our Web site at www.mortarnet.com.

800-664-6638
www.mortarnet.com

Mortar Net™
The Difference Is In *The Cut.*

CIRCLE 346 ON INQUIRY CARD

MUSSON
GLO-STRIP™ Stair Treads



Photoluminescent (Glows in the dark) Glo-Strip™ is available in any Musson Visually Impaired stair tread. 2" wide white grit-strip is made of non-toxic, non-radioactive zinc-sulfide crystals that absorb, and store light. Luminescence can be seen after lights cease operating; helps lead the way to safety. Recharge by exposing to light. Meets ADA slip resistance and high contrast regulations.

For free brochure and samples, contact
MUSSON RUBBER CO.
P.O. Box 7038 • Akron, OH 44306 • Fax (330) 773-3254
800-321-2381 • E-mail info@mussonrubber.com • www.mussonrubber.com

CIRCLE 347 ON INQUIRY CARD

Designers and Manufacturers of Residential and Commercial Lighting Since 1974

Neo-Classic Alabaster • Arts & Crafts • Mission
Prairie School • Traditional • Classic Exteriors
Vintage Prismatics

BRASS LIGHT GALLERY
MILWAUKEE

1-800-243-9595
www.brasslight.com

CIRCLE 348 ON INQUIRY CARD

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

ANSWERS TO: "WHAT? NO AIR CONDITIONING IN THIS BUILDING?"

Questions appear on page 290. To receive CES credits, fill in the education reporting form below or on our Web site (www.architecturalrecord.com).

1. Natural cooling is boosted when air flow is maximized. This usually works best when the building is less than 50 feet deep and work desks are less than 25 feet from a window. A building oriented toward the paths of sun and wind might have a facade that uses balconies, windows, air intakes, and sunshades to modulate solar heat intake. Passive lighting lowers internal heat buildup, landscaping can provide shade, and a building's color can determine how much solar heat is absorbed.

2. Natural ventilation is more successful in moderate climates than in extremely hot or cold climates. Humidity requires more air flow to evaporate perspiration from the skin and make occupants feel cooler. For fluctuating climates, ventilation may be switched from natural to mechanical on a daily or seasonal basis, bringing in fresh air when it is cool and dry. Climates that are hot during the day and cool at night can use natural ventilation at night to expel the diurnal heat gain.

3. The drawbacks of natural ventilation are that it may bring in pollen and dirt from outdoors if filters are not used. Acoustics are also an issue—both in bringing in noise from outside and in increased sound transmission from openings provided for air flow. Designs for natural ventilation typically require such apertures. This openness may make it more difficult to pressurize corridors and prevent smoke migration in case of fire.

4. Buildings can be designed to incorporate natural cooling with mechanical ventilation in several ways: Operable windows can have restricted openness or seals for use when the air conditioning is on. Another alternative is openings at the top and base of an atrium that introduce cooler air by drawing warm air up and out. Yet another method is night flushing, in which high-mass surfaces store heat during the day and release it at night. This approach requires ceiling space to expose the underside of a concrete floor slab, for instance, so the wire-management and mechanical systems are moved to an underfloor access system.

5. The standards for allowable temperature and humidity ranges in various building types have been narrowly defined at around 70 degrees Fahrenheit. Though this range was developed for centrally controlled, air-conditioned buildings, it is often assumed that it should apply to naturally ventilated buildings as well. A separate standard for naturally ventilated buildings proposes a wider range of temperature and humidity conditions. With a building separated into zones, differing ranges might be determined by season and type of activities.

AIA/CES EDUCATION REPORTING FORM

(Use to report learning unit hours earned for ARCHITECTURAL RECORD only.)

Member information:

Last Name First Name Middle Initial or Name

AIA ID Number

Program/project title: Architectural Record (05.00)

☐ "What? No Air Conditioning in this Building?" [page 281]
☐ "Analyzing Fire Risks Building by Building" [page 293]
☐ "Using Solid Surfacing as Exterior Wall Cladding" [page 306]
Section sponsored by Aristech Acrylics

Completion date (M/D/Y): ______ / ______ / ______
AIA/CES Credit: Each article or sponsored section will earn you one AIA/CES LU hour of health, safety, and welfare credit.
Fill in: ____ total LU hours.

Material resources used:
Journal article or sponsored section: This article or sponsored section addresses issues concerning the health, safety, or welfare of the public.

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

Signature Date

Send completed form to University of Oklahoma, Continuing Education, AIA/CES, Room B-4, 1700 Asp Avenue, Norman, OK 73072-6400; fax 405/325-6965. To respond by E-mail, visit www.architecturalrecord.com and click on Continuing Education. For more information call 800/605-8229.

EFABRICATED
lass Panel
ystems that
xtend
e boundaries
passive solar
IGHTING

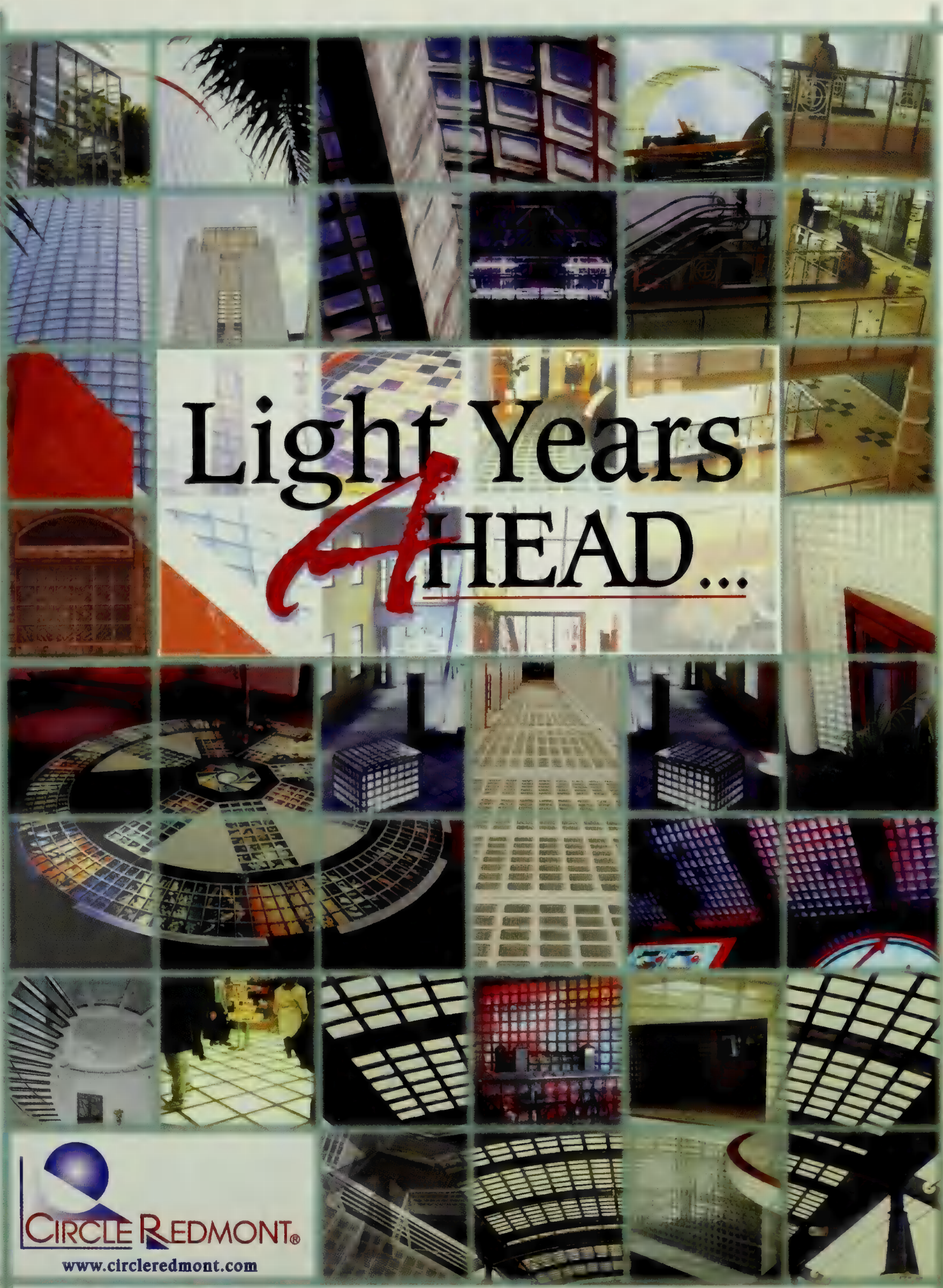
IRCLE
EDMONT'S
ovative product
e includes:

- SolarWhite™ llow Glass Block Aluminum Panel stem
- 71R™ Glass Paver & cast Concrete Panel stem
- 81R™ Glass Bullet Cast Iron Panels for storic Restoration
- 91R™ Glass Paver, ss Plank & Steel nel Systems
- Elite™ Prefabricated ss Block Window & ll Panels
- Outlook® & PSG2000 stom Skylighting stems™

Our variety of fabricated structural d frames incorporate arge assortment of ss types. These stems, standard or stomized will enable tually any type of plication.

00) 358-3888

H: 321-259-7374
: 321-259-7237



Leading Manufacturer of Structural Glass Panel Systems

CIRCLE 349 ON INQUIRY CARD

ANSWERS TO: "ANALYZING FIRE RISKS BUILDING BY BUILDING"

Questions appear on page 304. To receive CES credits, fill in the education reporting form below or on our Web site (www.architecturalrecord.com).

1. Performance-based design may be most effective for complex and unusual structures that don't fit readily within prescribed codes. Examples include convention centers, shopping malls, airport terminals, healthcare facilities, high-rise buildings, museums, and historical structures.

2. A performance-based design will usually cost more in the development stages but can result in cost savings by reducing the size of its structural materials and increasing the amount of rentable space. Also, performance-based designs often reduce the unnecessary costs and redundancies that standard codes normally require.

3. Many U.S. code enforcement agencies do not accept performance-based design but use the one-paragraph alternate-methods-and-materials clause. With this clause, any design methods or materials can meet code requirements, provided the equivalency to the prescriptive provisions is demonstrated. The problem is that it is not always easy to prove the equivalency. The time and costs required in the proof can delay the design process. Performance-based design, however, is widely accepted in such countries as England, New Zealand, and Australia.

4. Fire scenarios are descriptions of all the possible fires that could occur in a building, including unlikely events, such as direct hits by meteorites. The scenarios most likely to occur are then identified and processed through hazard-and-risk-analysis data, tools, and methods. The fire-protection engineer uses mathematical equations, as well as computer modeling, to make assessments. The model characterizes who is at risk (usually the occupants), identifies the source of the risk (smoke, heat, flame), and examines how the risk is posed (or how the smoke gets to the occupants).

5. Once the design-fire analyses are complete, a set of design options can be developed. These trial designs cover the following categories: fire initiation and development, fire spread, control of smoke, fire detection, fire suppression, occupant behavior and egress, and passive fire protection. Successful trial designs control fire or its effects without exceeding the performance criteria. The results of each evaluation indicate whether a trial design will meet performance criteria, and therefore the design objectives. After a set of trial designs is selected, a final design is chosen based on financial considerations, timeliness of installation, system and material availability, ease of installation, and system maintenance.

GET CONNECTED!
GO TO www.architecturalrecord.com

People and products behind projects in *Record*
Building technology Continuing education
Digital products buyers' guide Technology product reviews
Index to past issues
Notes from the field
Daily Headline & Late Breaking News
Sustainable resources Guide to green products
Career opportunities & job online fairs for additional positions
Links to advertiser web sites & product information ... and more

Architecturalrecord.com:
YOUR LINK TO THE WORLD OF ARCHITECTURE.

Online and In Stock. Or call for our catalog: 1-800-944-2233.
CIRCLE 350 ON INQUIRY CARD

ADVERTISERS INDEX

Bold: *indicates page number.*
Italic: indicates Reader Service Number.

PAGE NUMBER	READER SERVICE NUMBER	
300	115	A/D Fire Protection Systems Inc
299	114	Adams Rite Manufacturing Co
[illegible]		AECdirect
392		AIA Call for Entries
429		AIA Contract Documents
430		AIA Online
386		AIA Philadelphia Legacy Project
269	102	Altro Floors
285	108	Alusuisse Composites Inc
396E	336	American Buildings Company
406	345	Anchor Wall Systems
90-91	52	Andersen Commercial Group
144	72	Ann Sacks Tile & Stone
372	296	Arakawa Hanging Systems
335	133	Architectural Area Lighting
382	320	Architectural Pottery
77	45	Architectural Precast Association
60, 410		architecturalrecord.com
306-310	120	Aristech Acrylics
2cov-1	1	Armstrong
[illegible]		Autodesk
279	106	Autodessys
81	47	Avonite
358	144	B-K Lighting
365	362	Baldinger
45	22	BEGA
401	341	Belden Brick Company, The
399	339	Bellas Artes
172	78	Bentley Systems Inc
397	365	Bergerson
270-271	363	Bidcom Inc
291	111	Bilco Company, The
205	94	Birdair
372	297	BOCA/Bldg Offcls & Code Admins Intl
292	112	Boral Bricks
407	348	Brass Light Gallery
275	104	Bricsnet US
354	142	Bruck Lighting Systems
252	361	Buchtal Corporation USA
12-13		buzzsaw.com
96	54	c-z.com
159	73	C/S Group
393	333	Canterbury International
301	116	Ceco Door Products
5	3	Ceilings Plus
6-7	4	Celotex (Fi-Rok® gypsum board)
38-39	19	Celotex (Tuff-R® "C" insulation board)
74	43	Celotex (gypsum board)
88-89	51	Celotex (Ultra 90+ ceiling panels)
36-37	18	CENTRIA Architectural Systems
82	48	Cephren Inc
207	95	Certified Forest Products Council
382	321	Charles Loomis
409	349	Circle Redmont
287	109	CNA/Victor O Schinnerer
361	147	Columbia (Alera Lighting)
426	355	construction.com
386	326	Continental Bridge
357	143	Cooper Lighting (Metalux®)
359	145	Cooper Lighting (Iris™)
92	53	Copper Development Association
250	99	Copper Sales Inc
58	34	Cornell Iron Works
384	323	Country Casual
404	343	CRSI/Concrete Reinforcing Steel Inst
352	140	CSI (PerSpective™)
393	334	CSI (The Uniform Drawing System™)
364	288	DécorCable Innovations LLC
162-163		Dell
411	350	Design Within Reach
53	29	Diehl Graphsoft Inc
196	91	Door and Hardware Institute
384	324	Doug Mockett & Company Inc
424	366	Dura Art Stone
78	46	Eagle Windows & Doors
211	98	e-idc.com
365	289	Edison Price Lighting
59	35	EFCO Corporation
180	83	Electronics Diversified Inc
380	318	Eliason
3cov	359	eZ
360	146	Florestone
329	129	Flos USA Inc
289	110	Follansbee Steel
136-137		Forms + Surfaces (Surfaces+)
139		Forms + Surfaces (Cornelius+)
181	84	FSB-USA
312-313		Gardco Lighting
385	325	Georgia-Pacific
391W	332	Gladding, McBean
64-65	38	Glen Raven Mills Inc
76	44	Gordon Inc
388	328	GR Plume Company
195	90	Graham Architectural Products
272	103	Graphisoft
118	64	Hafele
32-33	16	Hambro/Canam
108	60	Hanover Architectural Products
51	27	Hansgrohe Inc
391E	331	High Concrete Structures Inc
429	357	Hillier
56	32	Homasote
362	148	Hoover Treated Wood Products Inc
330	130	Hubbell Lighting Inc
378-379	317	Hunter Douglas Architectural Prods
413	351	IALD/Intl Assn of Lighting Designers
400	340	ICBO/Internatl Conf of Bldg Officials
348	138	illuminating experiences
50	26	Italian Trade Commission
116	63	IWP
112	61	J&J Industries (Invision)
398	338	John Wiley
31	15	Johns Manville
297	113	Johnsonite
122	66	Julius Blum & Co Inc
20-21	10	Kawneer Company Inc
288A-B		Keilhauer
370	294	Keystone Retaining Wall Systems
331	131	Kim Lighting
189	86	Kolbe & Kolbe Millwork Co Inc
4cov	100	Kroin Incorporated
130	68	landscapeforms
179	82	Laticrete International Inc
374	299	Lehigh Portland Cement Company
350	139	Light-Project Intl Inc
390	330	LightingUniverse.com
324-325	127	Lightolier
327	128	Lightolier (Calculite® Evolution™)
194	89	Lonseal
316	124	Louis Poulsen Lighting
319	125	Lucifer Lighting Company
322	126	Lutron
104	58	Madera Tile
34-35	17	Mannington Mills Inc
46-47	23	Marlite
16-17	8	Marvin Windows & Doors
389	329	MBMA/Metal Building Mfrs Assn
396N		McGraw-Hill Companies, The
128	67	Meeker Cedar Products Ltd
40	20	Meridian Project Systems Inc
381	319	Metal Construction Association
42	21	Metalaire
55	31	Miele
191	87	Mitsubishi Chemical America Inc
280	107	MM Systems Corporation
305	119	Monarch
407	346	Mortar Net
425	354	MP Interactive
407	347	Musson Rubber Co
392		National Building Museum
61	36	National Gypsum Company
197	92	National Terrazzo & Mosaic Assn
102	57	NECA/IBEW NLMCC
344	136	NEMO
365	290	Original Cast Lighting, The
176	80	Osram Sylvania (Motorola partnership)
314	123	Osram Sylvania (Octron 800XP/ECO T8)
366	291	Parex Inc
142-143	71	PCI/Precast/Prestressed Concrete Inst
25	12	Pella Windows & Doors
302	117	Pemko
62-63	37	Pergo Publiq
164	75	Petersen Aluminum
336	134	Philips Lighting Company
18-19	9	Pittsburgh Corning
49	25	Pozzi Wood Windows
66-67	39	PPG
342-343	135	Prescolite Moldcast
415	353	Research Engineers
71	41	Revit Technology Corporation
376-377	300	Ricoh
52	28	ROMTEC Inc
161	74	Roppe Corporation
10-11	6	Saab USA
114	62	Sarnafil Inc
276	105	SBCCI/Southern Bldg Code Cong Intl
178	81	Schlage
73	42	Schott Corporation (Okalux®)
170	77	Schott Corporation (Amiran®)
57	33	Sloan Valve Company
403		SmartAge.com
370	293	SMI/ Spider Manufacturing Inc
383	322	Smith & Hawken
210	97	Smith-Midland
14-15	7	Solutia
100	56	Sony Electronics Inc
54	30	Southern Pine Council
48	24	Speakman
209	96	Specialty Steel Industry of NA
347	137	SPI Lighting Inc (Continuum)
363	149	SPI Lighting Inc (Advent)
304A-B		Sprint
140-141	70	StarNet
165	76	Sto Corp
431	364	SubZero
394-395	335	Sweet's, A Div of The McGraw-Hill Cos
251	360	TEC
332	132	Tech Lighting
26-27	13	Technical Glass Products
303	118	Timely
85	49	Traco
106	59	Traco (Skytech Systems®)
193	88	Trade Commission of Spain
371	295	Truebro
187	85	United States Aluminum
22	11	USG Corporation (InsulScreen™ 2200)
68	40	USG Corporation (ceiling systems)
98	55	USG Corporation (Aqua-Tough sheathing)
369	292	USG Corporation (Drywall Suspen Syst)
405	344	V-KOOL
28-29	14	VELUX-AMERICA Inc
120	65	Vinyl Institute, The
415	352	Virgin Mary Church
353	141	Visa Lighting Corp
132	69	Vistawall Architectural Products
86-87	50	Vulcraft, A Division of Nucor Corp
387	327	Wausau Tile
203	93	Wausau Window and Wall Systems
8-9	5	Weather Shield Windows & Doors
311	121	Wind2 Software
174	79	Window & Door Manufacturers Assn
2	2	Wiremold
373	298	YKK AP America Inc
402	342	Zero International

For additional information on these advertisers, circle corresponding number on Reader Service Card, or visit our web site at www.architecturalrecord.com and click on Advertiser Information.

Executive Offices

The McGraw-Hill Companies
Two Penn Plaza
New York, NY 10121-2298

VICE PRESIDENT / PUBLISHER
Elaine Shusterman
(212) 904-3475 Fax: (212) 904-4652
shusterman@mcgraw-hill.com

ADVERTISING DIRECTOR
David Johnson
(212) 904-6217 Fax: (212) 904-4652
dave_johnson@mcgraw-hill.com

PRODUCTION MANAGER
Stephen R. Weiss
(212) 904-2793 Fax: (212) 904-6800
stephen_weiss@mcgraw-hill.com

PROMOTION DIRECTOR
Deborah Smikle-Davis
(212) 904-4558 Fax: (212) 904-6774
deborah_smikle-davis@mcgraw-hill.com

Advertising Sales

NORTHEAST / MID-ATLANTIC
Two Penn Plaza
New York, NY 10121-2298

Ted Rzempoluch
(212) 904-3603 Fax: (212) 904-4256
rzempoluch@mcgraw-hill.com

MIDWEST
One Prudential Plaza
130 East Randolph Street, Suite 400
Chicago, IL 60601-6213

Mike Gilbert (IL, IA, MN, MO, OH, W.PA, WV)
(312) 616-3338 Fax: (312) 616-3276
mike_gilbert@mcgraw-hill.com

Steve Roth (IL, IN, KS, MI, ND, NE, OK, SD, TX, WI)
(312) 616-3339 Fax: (312) 616-3276
stephen_roth@mcgraw-hill.com

SOUTHEAST / MID-ATLANTIC
4170 Ashford-Dunwoody Rd.
Atlanta, GA 30319

Susan Shepherd
(404) 843-4770 Fax: (404) 252-4056
sshepherd@mcgraw-hill.com

WEST (AZ, CA, CO, NM, NV)
Media Sales Associates
1570 Vista Club Circle, #104
Santa Clara, CA 95054

Bill Hague
(408) 492-9292 Fax: (408) 492-9797
(253) 858-7575 Fax: (253) 858-7576
billh@abptuf.org

WEST (BRIT. COLUMBIA, ID, OR, S. CA, UT, WA)
5901 S.W. Macadam Avenue, Suite 230
Portland, OR 97201

Bill Madden
(503) 224-3799 Fax: (503) 224-3899
billmad@msn.com

CANADA (EXCEPT BRITISH COLUMBIA)
48 Little Rebel Road, RR 3
Schomberg, Ontario L0G 1T0

Frank A. Spangenberg
(905) 939-0653 Fax: (905) 939-0654
spang@sympatico.ca

Manufacturers' Spotlight/Postcard Service

Ally Wingate
(212) 904-2010 or 1-800-544-7929 Fax: (212) 904-4256
ally_wingate@mcgraw-hill.com

Classified Advertising

Cherie Jolley
(801) 974-2843 Fax: (801) 972-9409
cherie_jolley@mcgraw-hill.com

Editorial

(212) 904-2594 Fax: (212) 904-4256
www.architecturalrecord.com

Subscriber Service

(888) 867-6395 (USA only)
(609) 426-7046 Fax: (609) 426-7087
p64cs@mcgraw-hill.com

Back Issues

(212) 904-4635
phyllis_moody@mcgraw-hill.com

Reprints

(609) 426-5129 Fax: (609) 426-5472
doreen_bitowf@pubs.mcgraw-hill.com

BECOME THE LIGHT IN THE MINDS OF OTHERS

WALLACE STEVENS

We gratefully acknowledge these friends and colleagues for their generous support of the IALD Education Trust Fund Dinner.

CORPORATE SPONSOR LEVEL I [$10,000]

GE Lighting
Lucifer Lighting Company
Philips Lighting Company

CORPORATE SPONSOR LEVEL II [$5,000]

Architectural Lighting Magazine
Cooper Lighting
ERCO Lighting USA
ETC
Focal Point
Lightolier
Lithonia Lighting Group
Lucifer Lighting Company
LUTRON (3 tables)

CORPORATE SPONSOR LEVEL III [$3,000]

Alsco Inc./DSA
Architectural Record
Baldinger
Belfer Lighting
Cooper Lighting
Creative Light Source
Eclipse Lighting
Edison Price Lighting
Enterprise Lighting Sales
International Lights
Kurt Versen Company
Ledalite Architectural Products
Lighting Dimensions
Lighting Services Inc
Litecontrol Corporation
LumiLeds Lighting
Luminis
National Cathode Corp.
Osram Sylvania
Philips Lighting Company
Poulsen Lighting
Prisma Architectural Lighting
Rambusch Decorating Company
SPI Lighting Group
Sterner Lighting Systems
Targetti Group
Visa Lighting
Zumtobel Staff Lighting

The International Association of Lighting Designers Education Trust Fund promotes education in lighting design and provides scholarships to promising students. The IALD Trust Fund's goal is to make the study of lighting relevant and progressive in schools and universities worldwide.

IALD
Education Trust Fund

www.iald.com
312.527.3677

Join us at the IALD Education Trust Fund Dinner on May 10 at the beautiful Puck Building in NY.

▶ EVENT SOLD OUT

CIRCLE 351 ON INQUIRY CARD

Anything worth building, cannot be built alone.

Through a dedicated sharing of resources, unprecedented collaboration and laser-like focus, AECdirect and its partners have developed a site stacked with information and resources that will help the industry build a whole new way.

This summer, we'll introduce you to a site that will dramatically change how you work and collaborate by providing ways to create efficiencies in the entire design and building process. From enhancing proven tools like MASTERSPEC® to developing the industry's largest online education catalog, we're creating the ultimate online work site for the design and building industry.

AECdirect
AIA
Bentley
CMDGROUP
The McGraw-Hill Companies

Designed to build.

www.aecdirect.com

The New Millennium

Coptic Church Design Competition

Eligibility:

Open to architects and designers worldwide

Deadlines:

Registration: thru July 12, 2000, $75 Entry fee
[Make check payable to: Coptic Church Design Competition]
Submission: thru September 27, 2000

Awards:

$15,000 first place prize, second and third places honorary mention. Prizes will be presented during an official ceremony on October 21, 2000.
The winning project will be publicized in major architectural magazines.

Jury:

Distinguished panel of professionals will select winners on the basis of aesthetics, design, creativity, function and satisfaction of religious objectives.

Information:

http://www.copticdesign.org
Fax: (914) 639 1522
Address: P.O. Box 271, New City, NY 10956, USA

Sponsor:

VIRGIN MARY & ST PAKHOMIOUS
COPTIC ORTHODOX CHURCH
OF LOWER HUDSON VALLEY
P. O. Box 271, New City, NY 10956

CIRCLE 352 ON INQUIRY CARD

VERSION 2.0

STAAD.etc™

Structural Component Design & Analysis

Fast, Interactive – STAAD/Pro 2000 Interface

Base Plates • Columns • Footings • Retaining Walls • Slabs • Much More

- Friendly Wizard-like interface makes component design quick and easy.
- Spreadsheet-type input with dynamic graphics.
- Flexibility to change individual data units, customize rebar and databases.
- **Automated step-by-step hand calculations.**

Research Engineers
a division of netGuru, Inc.

CIRCLE 353 ON INQUIRY CARD

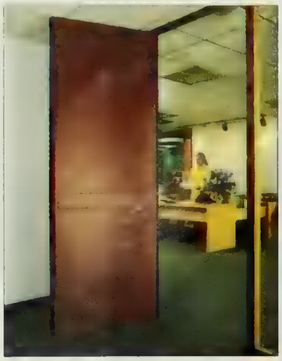
Steel & Concrete Structures & Accessories

USA • UK • Germany • France • Canada • Japan • China

FR
CD DEM
800-FOR-R
reiworld.
info@rei.usa

Architec
Friendl
U.K. & India Codes Availa

Applications

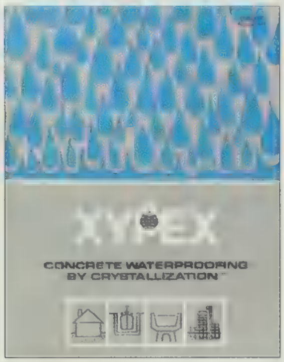


The new flush exit device is designed for use on TOTAL DOORS in single, pairs & double egress pairs. Ideal for corridor & elevator lobby applications in all commercial facilities. The exit device allows continuous, uninterrupted sight-lines in corridors when doors are pocketed in the open position. Its quiet operation is ideal anywhere noisy hardware is a problem. TOTAL DOORS can be retrofitted into existing door frames, saving time & expense.

Openings

CIRCLE 150 ON INQUIRY CARD

Concrete Waterproofing by Crystallization



Applied as a slurry coating Xypex is a chemical treatment that waterproofs by penetrating the concrete with a crystalline formation that "plugs" the pores of the structure preventing water seepage. Xypex is ideal for use on the "inside" of wet underground structures.

Xypex Chemical Co.

CIRCLE 151 ON INQUIRY CARD

Alpha Collection 2000 Aluminum-Stainless Steel

New and innovative design patterns and textures. Ideal for most vertical surfaces. Border to border standard sizes. Thickness from 0.025" to 0.064". Quantity discounts and free design consulting. Ask us about our custom capability. SD+T Marketing INC., Tel: 305-856-3825 TollFree: 877-626-2595 Fax: 305-856-1287 E-mail: sales@sdtmarketing.com Website: www.sdtmarketing.com

SD+T Marketing Inc.

CIRCLE 152 ON INQUIRY CARD

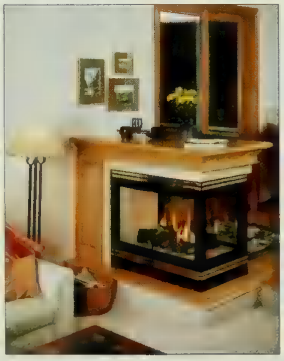
ADA Insulation Safety Covers

Plumberex Specialty Products, Inc. is the only company that manufactures a complete line of ADA safety covers for commercial & residential applications, meeting all building & fire codes with a -0- smoke rating. The Handy-Shield™ Safety Cover is the one and only ADA safety cover on the market with a "Dual" fastening system to help deter theft! For more information call 800-475-8629, Website: www.plumberex.com or email: plumberex@earthlink.net

Plumberex Products, Inc.

CIRCLE 153 ON INQUIRY CARD

Three-Sided Fireplace for Unlimited Installations

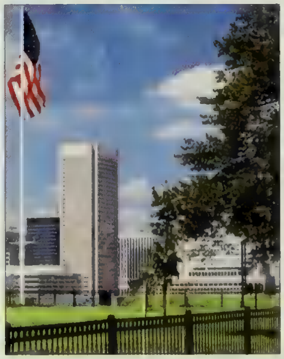


Heat-N-Glo introduces model PIER-TRC, a three-sided direct vent fireplace that can be terminated vertically or horizontally to accommodate nearly any application. The PIER-TRC is perfect as a room divider, bar, end of counter or a wide variety of creative installation possibilities. As with all Heat-N-Glo fireplaces, the PIER-TRC can be operated by remote control for the ultimate in convenience. Call 888-427-3973.

Heat-N-Glo

CIRCLE 154 ON INQUIRY CARD

Ornamental Picket Fence with a Purpose



We have given special attention to each & every component of our fence. Every item is designed for strength, durability and low maintenance. No other company builds a complete fence - rail, rivets, brackets, pickets and posts, that are stronger, more durable, have more security or lower maintenance costs than our fences. Monumental Iron Works, 6500 Eastern Ave., Baltimore, MD 21224. Tel: 410-633-6500, Fax: 800-239-2963.

Monumental Iron Works

CIRCLE 155 ON INQUIRY CARD

Grand Manor Shangle®

CertainTeed's Grand Manor Shangle® is a super heavyweight shingle built on two full-size one-piece shingles with random 8" tabs applied on top. Patented shadow lines and a unique color palette give Grand Manor the look and depth of natural slate and wood. UL Class A. Lifetime limited, transferable warranty. Algae-resistant. UL Certified to meet ASTM D 3462.

CertainTeed Corporation

CIRCLE 156 ON INQUIRY CARD

Decorative Grilles

Unusual visual effects emerge when our grilles are designed for area effects. Versatility is the theme. R&G offers architects and interior designers many ways to express the changing forms of metal with the integrity of R&G's architectural grilles. Custom or standard finishes are available plus any grille can be made in matching color to blend with your decor. 202 Norman Ave., Bklyn, NY 11222. 800-521-4895, Fax: 718-349-2611.

Register & Grille Mfg Co

CIRCLE 157 ON INQUIRY CARD

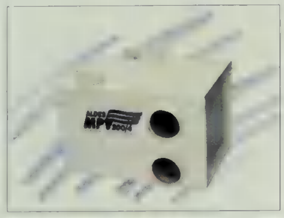
Panelfold's Walls So Tall! www.panelfold.com

Moduflex® Series 800 steel operable walls as high as 44' (4925mm) are made with rugged one-piece 14 gauge (1.99mm) steel frames permanently and invisibly welded to one-piece seamless steel faces surfaced with a wide variety of materials including COM. Panelfold Electronic Library Version 3 on CD ROM available upon request by FAX: 305-688-0185 or E-mail: sales@panelfold.com. Please visit our website: www.panelfold.com

Panelfold

CIRCLE 158 ON INQUIRY CARD

Ventilate All Baths With One Quiet Fan



ALDES' MPV fan is designed for multiple and extensive duct runs. Remote mounting of fan assures almost silent operation. Up to 6 exhaust points at 50 cfm each. Equipped with a continuous duty motor, the MPV may be used also to provide IAQ Ventilation. Super Quiet, Powerful & Versatile. 3 year warranty. Cost Effective. American ALDES Ventilation Corp. 4537 Northgate Court, Sarasota, FL 34234, Call 800-255-7749, www.americanaldes.com

American ALDES

CIRCLE 159 ON INQUIRY CARD

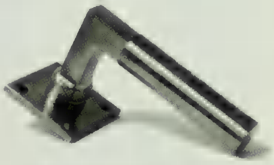
Neo-Metro™ Collection

Acorn Engineering Company introduces a new line of designer, stainless steel bath fixtures. The Metro-Urban Toilet (here in "Mira" finish) is fabricated entirely out of heavy gauge stainless steel. The Metro-Urban Toilet uses only 1.6 gpf. Acorn's Neo-Metro™ Collection also manufactures exclusive stainless steel washbasins, bathtubs, urinals and other fixtures for the residential and commercial bath. For more information: 800-591-9050 email: info@neometro.com www.neometro.com

Neo-Metro™ Collection

CIRCLE 160 ON INQUIRY CARD

NANZ



The No. 2006 is a Bauhaus handle based on a Walter Gropius design. Nanz manufactures this and a wide range of other levers, knobs, locks, hinges and cabinetry hardware. Fax a request for our free Product Selection Guide or our $20 catalogue featuring this and over seventy other handles. phone 212-367-7000, fax 212-367-7375.

Nanz Custom Hardware Inc

CIRCLE 161 ON INQUIRY CARD

Birds Take Flight From Nixalite!

Persevere architecture treasures with Nixalite bird control. Effective and humane, these stainless steel strips provide a protective barrier that is long lasting and inconspicuous. With the addition of Colorcoat™, a color powder coating option, Nixlalite is almost invisible. For information, call 800-624-1189, Fax 309-755-0077 or visit our website at www.nixalite.com

Nixalite® of America Inc.

CIRCLE 162 ON INQUIRY CARD

Unique Early childhood Furniture

GRESSCO, Ltd introduces HABA® a new line of children's modular Loft furniture, shelving, platforms and room partitions in addition to our existing array of KinderSystem™ reading furniture. Now you can create a truly unique children's area in your hospital waiting room, daycare center, church or library. Call GRESSCO today for a FREE catalog at 800-345-3480, www.gresscoltd.com

GRESSCO Ltd.

CIRCLE 163 ON INQUIRY CARD

Chadsworth's 1.800.Columns® www.columns.com

Voted No. 1 Preferred Brand in U.S. Columns, pillars, pilasters & posts available in wood, PolyStone™ and fiberglass. Interior, exterior. Variety of sizes & styles. Competitive prices. Jobsite delivery. Worldwide shipping. Our award-winning Idea Book features an exciting collection of column projects. Includes Columns Product Portfolio, $20 soft cover, $30 Hard cover. Columns Product Portfolio $5 (credited to first order). Free flier. 800-486-2118 Fax 910-763-3191

Chadsworth's 1.800.Columns®

CIRCLE 164 ON INQUIRY CARD

Columns and Balustrades

Melton Classics' complete line of columns and balustrades are classically authentic yet affordable priced. Enhance your next project with fiberglass, marble/resin or wood columns for paint or stain, synthetic stone columns and balustrades, or choose from our comprehensive cast stone and polyurethane millwork products lines. 800-963-3060 or www.meltonclassics.com

Melton Classics, Inc.

CIRCLE 165 [illegible] INQUIRY CARD

Mini-JOMY® Pole Ladder

A scaled down version of the JOMY® Safety Ladder, specially designed for residential and light commercial applications. The Mini-JOMY® looks like a drainpipe but folds out to a 17" wide ladder with slip resistant rungs constructed of extruded anodized aluminum and stainless steel. The Mini-JOMY® is maintenance free and will last the lifetime of any building. Can be locked at ground level for access applications. Call 800-255-2591 for additional information. Or find us at www.jomy.com

JOMY® Safety Products

CIRCLE 166 ON INQUIRY CARD

Protect Against Winter Ice & Summer Hail

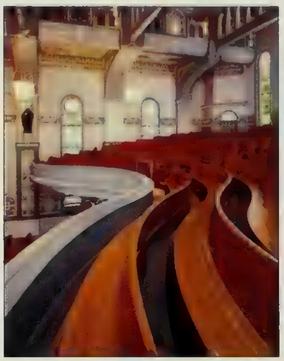
ICE
CAN BE A DISASTER TO ROOFTOP EQUIPMENT
the RPI Ice Deflector IS THE SOLUTION!
ROOF PRODUCTS, INC.
1-800-262-6669

For new construction or retrofit – RPI Ice Deflector protects HVAC, fans, condensers, skylights, piping, ductwork and other roof-or-ground-mounted equipment against damage from falling ice from towers, walls and adjacent buildings. Also protects against hail and wind during spring and summer thunderstorms. Structural curbs, equipment supports and adapters also available. Call RPI for solutions. 800-262-6669 www.rpicurbs.com

Roof Products, Inc.

CIRCLE 167 ON INQUIRY CARD

The Radius Curved Church Pew



Since 1919, New Holland Church Furniture has supplied churches nationwide with both custom & standard church furniture. Today, New Holland is the only manufacturer of "Radius Curved Pews" in the USA. As a certified member of the Architectural Woodwork Institute (AWI), you can be assured of our consistent high quality. New Holland has just developed all new product catalogs for our Pews & Solid Wood Chairs. New Holland Church Furniture, 313 Prospect St, New Holland, PA 800-220-1465

New Holland

CIRCLE 168 ON INQUIRY CARD

Doyle Crosby's "Mercury"

Architecturally elegant and ADA compliant, the "Mercury" sconce is a striking source of decorative lighting. The solid brass stem is crowned with a glowing frosted glass chimney or with a fine linen shade for more traditional settings. Finished in polished nickel, polished brass or satin nickel. www.boydlighting.com

Boyd Lighting

CIRCLE 169 ON INQUIRY CARD

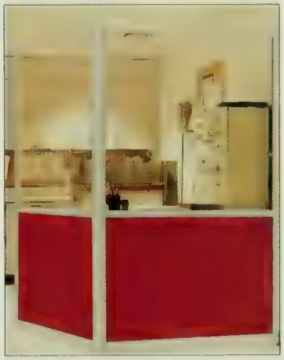
Gage Metal Ceilings

The Gage Corporation, Int., designs and manufactures the world's foremost collection of decorative metal ceilings. Design #447 (photo) is a good example of selective two-directional brushing with custom perforations from Gage's "Honest Aluminum" collection. Concealed suspension provides a clean monolithic appearance. Call the factory at 800-786-4243 for introductory samples and literature.

The Gage Corporation

CIRCLE 170 ON INQUIRY CARD

CLEAR-Pb® Lead-Plastic Radiation Shield

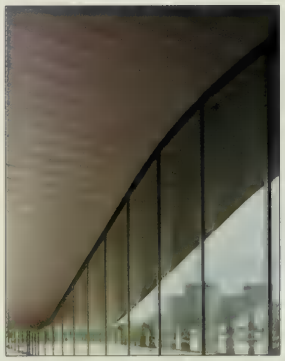


Discover the advantage of incorporating Nuclear Associates' CLEAR-Pb® Lead-Plastic Radiation Shielding into your next project! Lead-impregnated plastic won't shatter; space saving; cost-effective; more versatile than old-fashioned lead-glass; quick, mess-free, hassle-free installation; ideal for medical and non-medical facilities; available in more than 100 standard sizes, seven lead equivalencies and now 16 colors. Floor-plan ideas available.

Nuclear Associates

CIRCLE 171 ON INQUIRY CARD

Luxalon Wide Panel Systems

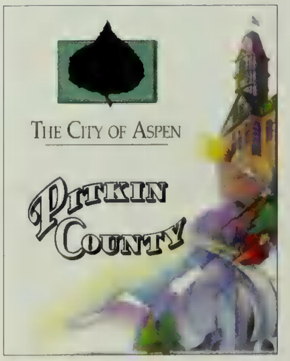


The revolutionary ceiling system offers nominal 12" (300mm) wide panels in lengths up to 19'0" creating a clean sophisticated, monolithic ceiling plane. Long spans are available with a soft beveled edge or a reveal edge. The system provides both acoustics and aesthetics with easily installed panels. Available in 8 finishes and 2 perforation patterns. For further information call 800-366-4327.

Hunter Douglas

CIRCLE 172 ON INQUIRY CARD

Design Competition Aspen, Colorado



A site planning & architectural design competition for a new 120 to 150 transit oriented affordable housing community. 5 professional teams will be selected. Each will receive $10,000 to prepare their design. Winning team receives $10,000 bonus. Teams are required to attend an orientation meeting in Aspen. Deadline to request RFP: 5/15/2000. Contact Jay Leavitt, Aspen/Pitkin County Housing Authority, Aspen, CO 81611, 970-920-5068 Fax: 970-920-5580 Email: jayl@ci.aspen.co.us

Aspen/Pitkin Housing Authority

CIRCLE 173 ON INQUIRY CARD

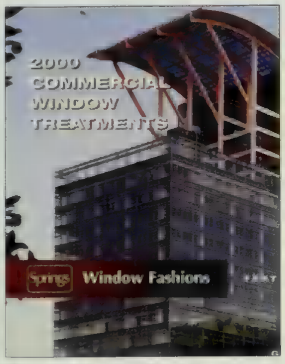
Parallel Design Partnership Limited

"ellen's brackets", an anodized-aluminum shelving system designed by M Ali Tayar, provides an elegant alternative to existing bracket-and-track systems. Cantilevered brackets come in two sizes, for shelves 3/4 or 3/8-in. thick and 10-in. deep. Wall-mounted tracks permit 1 1/2-in. adjustment of wood, glass or plexiglass shelves. For more info phone Parallel Design Tel: 212-989-4959 Fax: 212-989-4977.

Parallel Design

CIRCLE 174 ON INQUIRY CARD

Spring Window Fashions



Spring Window Fashions manufactures window treatments for commercial applications. Brand names and products include: Bali horizontal blinds, Graber vertical Blinds, cellular and pleated shades and drapery hardware and Nanik wood blinds. Call our Architectural Hotline at 800-327-9798 for answers to technical questions or to request faxed copies of product specifications. Plan to see us in June at CSI in Atlanta, Booth 1511.

Spring Window Fashions

CIRCLE 175 ON INQUIRY CARD

Curved Panel Brochure From Floline

Color brochure illustrates the use of Floline curved panels on office buildings, industrial parks, mass transit, schools and retail projects. Applications include facades, roofs, walkway covers, cornices and fascia. Ideal for new construction as well as renovation. Unlimited custom designs; full range of contemporary colors and finishes. Nobody has curved more projects that Floline. Call 800-449-0193.

Floline Architectural Systems

CIRCLE 176 ON INQUIRY CARD

Site Furniture of Distinction

Keystone Ridge Designs, Inc. is the architect's choice for premier site amenities. Offering a full line of steel furnishings, we pride ourselves on exclusive designs and our patented powder coat finish, KEYSHIELD™, that is unparalleled in the industry. Quality, craftsmanship, and dedication to your creative vision are the hallmarks of Keystone Ridge Designs. For more information please call 800.284.8208 or e-mail KeystonRdg@aol.com. www.keystoneridgedesigns.com

Keystone Ridge Designs

CIRCLE 177 ON INQUIRY CARD

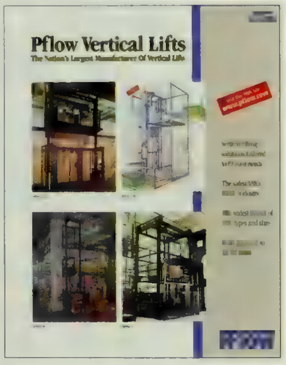
Dodge-Regupol Launches ECOsurfaces™

Dodge-Regupol (DRI), the world's largest converter of post-consumer tire rubber, launches Ecosurfaces™, xtreme recycled rubber™ flooring for both indoor & outdoor commercial applications. Not only environmentally sound, but also available in 38 vibrant colors, Ecosurfaces in rolls & tiles responds directly to designers' needs & their budget concerns. For a fresh new colorful way to create attractive environments, call Gerbert Ltd at 877-Ecosurfaces (877-326-7873).

Gerbert Ltd

CIRCLE 178 ON INQUIRY CARD

Pflow Lifts Safely Move Materials Between Levels

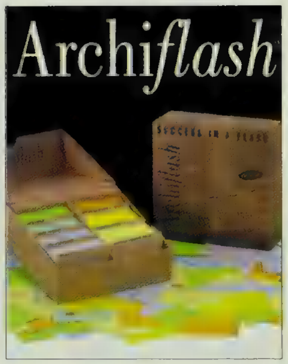


Pflow Vertical Lifts transport materials between two or more levels. Designed for mezzanines, through floor, interior & exterior applications. Capacities from 10 lbs. to 100,000 lbs., vertical heights to over 200', carriage sizes to 30' x 30'. Mechanical, hydraulic and fully automated systems. guaranteed code approval. Call 414-462-8810 Fax 414-462-2673 www.pflow.com

Pflow Industries, Inc.

CIRCLE 179 ON INQUIRY CARD

Pass the A.R.E. Study with Archiflash®



Prepare for the computerized Architect Registration Exam with Archiflash®. Each set contains over 1,100 expertly written flashcards covering all six multiple choice tests, plus a review section on Site Planning. Learning is easy with timesaving charts, essential definitions, concise diagrams, true/false and multiple choice Q & A. More information than you ever thought possible in an easy-to-use Flashcard format. Order by phone: 800-411-7314. Order online: www.archiflash.com

Nalsa, Inc.

CIRCLE 180 ON INQUIRY CARD

Integrated Architectural Ornamentation

Pineapple Grove Designs marks the return of the artisan to architecture. Our meticulously crafted SculptStone™ bas-relief medallions & friezes in classic, traditional, & contemporary styles, provide a sense of balance & visual order to any building. Our work is an extension of a tradition that has distinguished structures since antiquity. Easily applied & suitable for any climate, SculptStone™ ornaments are available in a variety of designs, colors, sizes & shapes. Call 800-771-4595 for more information.

Pineapple Grove Designs

CIRCLE 181 ON INQUIRY CARD

MANUFACTURERS' SPOTLIGHT

Shoji – Custom Dividers, Passage and Pocket Doors

Shoji maker of choice among design professionals. Perfect for passage doors, cabinets, pockets, & room dividers. Custom made of American hardwoods. Grid patterns to compliment a myriad of interiors. Durable facings include glass, acrylic, fabric. or backed paper. Commerical, hospitality, and residential projects. Hand-crafted in the U.S.A. 800-634-3268 www.cherrytreedesign.com

Cherry Tree Design

CIRCLE 182 ON INQUIRY CARD

Fireframes™

Technical Glass Products introduces Fireframes™ – fire-rated door and window frames with sleek, European styling. Fireframes™ allow large expanses of glass, and are well-suited to applications where aesthetics are important. Available in a Designer Series and a Heat Barrier Series, the doors and frames carry ratings up to 2 hours. For complete information call 800-426-0279 or visit www.fireglass.com

Technical Glass Products

CIRCLE 183 ON INQUIRY CARD

Boa Two-Circuit Track System

Bruck Lighting, the international leader in innovative low-voltage cable and track systems, introduces Boa, a low-voltage two-circuit track system with dual switching ability. Boa may be suspended or flush mounted, installed vertically or horizontally and is available in chrome or matte chrome. All Unilights fixtures can be utilized with Boa as well as all seven other Bruck systems. Boa will be on display at Lightfair 2000 in Booth 101. www.brucklighting.com

Bruck Lighting Systems

CIRCLE 184 ON INQUIRY CARD

Invisible Swing Gate Operators

FAAC is the world's largest specialized manufacturer of hydraulic operators for barrier, slide and swing gate systems. Models 750 and 760 hydraulic swing gate operators are designed specifically for in-ground installation for residential and light commercial applications. Their power and total invisibility make the 750 and 760 ideal for large ornate gates. Call 800-221-8278 for complete product brochure or visit www.faacusa.com

FAAC International, Inc.

CIRCLE 185 ON INQUIRY CARD

1% Hi-Lume® T5-HO Linear Fluorescent Dimming Ballast

Lutron has introduced a new Hi-lume® electronic fluorescent dimming ballast that provides 1% architectural dimming for 54 watt, T5 High Output linear fluorescent lamps. Its physical cross section of 1" high by 1.18" wide makes it ideal for one- and two-lamp profile fixtures. For more information, contact Lutron at: 800-523-9466 or www.lutron.com

Lutron Electronics

CIRCLE 186 ON INQUIRY CARD

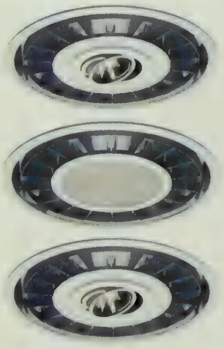
AAC SolarTrac™ Window Management System

The AAC SolarTrac™ Window Management System tracks the sun to incrementally adjust ElectroShades® automatically and building wide, to optimize the shadecloth's solar protection and energy efficiency characteristics. AAC SolarTrac™, using a PC-based program, factors in the sun's angle of incidence, solar heat-gain, allowable solar penetration, brightness and glare control based on the building's specific location. 718-729-2020 or www.mechoshade.com

MechoShade Systems, Inc.

CIRCLE 187 ON INQUIRY CARD

CircLet



Wila Lighting introduces CircLet, a revolutionary multifunctional downlight utilizing the circular T5 lamp. CircLet's modular construction allows integration of speakers, video cameras, accent lights, smoke detectors, and fire sprinklers in the center "free space" of the fixture. CircLet will be on display at Lightfair 2000 in Booth 3521. www.wila.com

Wila Lighting, LLC

CIRCLE 188 ON INQUIRY CARD

Seminar Highlights Benefits of Foam Core Metal Roofs

Give us 60 minutes and we'll completely change the way you think about roofing
Foam Core Metal Roofs

The Metal Construction Association is offering a seminar that showcases the many advantages of foam core metal roofs, compared with competitive materials. It's enjoyable, interesting and informative – and you can earn AIA continuing education credits just for attending. Contact Centria at 800-759-7474 or Foam Core Metal Roof at 877-902-ROOF for complete details.

Centria

CIRCLE 189 ON INQUIRY CARD

Interactive Whiteboard

The Rear Projection SMART Board™ is an interactive whiteboard that allows you to control projected Windows® or Macintosh® applications and other multimedia by pressing on the Board's large, touch-sensitive surface. Write over top of applications and your notes are saved for future reference and distribution. Architects and facility designers can request the SMART Product Kit by calling 888-427-6278 or by visiting www.smarttech.com/productkit

SMART Technologies Inc.

CIRCLE 190 ON INQUIRY CARD

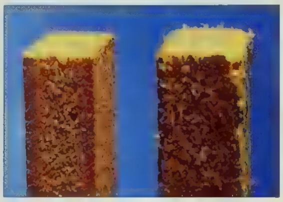
Xenon Luminaries

Space Cannon Illumination Inc. introduces the Litehose, the latest in linear lighting technology made of extruded, durable optical-grade acrylic. Available in different diameters and sizes, reflective paints and films are not required. The Focus is an architectural coloured luminarie utilizing a 1200w lamp source designed to work with the Litehose or separately. 888-705-1028.

Space Cannon

CIRCLE 191 ON INQUIRY CARD

Duraflake Particleboard

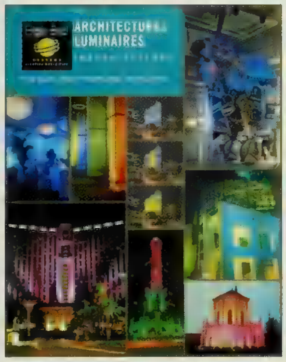


Duraflake MR® moisture-resistant particleboard absorbs less moisture & exhibits minimal thickness swell compared to standard particleboard. For interior applications where exposure to high humidity & intermittent contact with water is common. It has a fine surface for laminating & exceptional strength. Applications include bathroom & kitchen cabinets & counters, casework, display fixtures, entryways & other moisture-prone areas. To request information call 800-887-0748 ext. 300.

Willamette Industries, Inc.

CIRCLE 192 ON INQUIRY CARD

Modern Architectural Lighting for a New Millenium

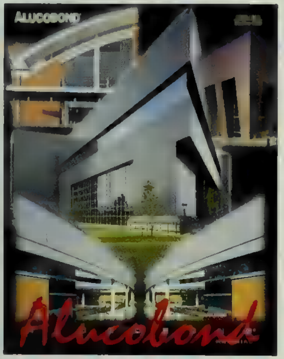


High End Systems' range of architectural luminaries can help you bring buildings to life. Indoors, the Color Pro® Series provides seamless color mixing, and hard-edge and soft wash effects in a flexible, high-powered design. The weather-resistant EC-1™ and ES-1™ Architectural Luminaires can be mounted in any orientation allowing you to paint with color and patterns across virtually any outdoor space.

High End Systems

CIRCLE 193 ON INQUIRY CARD

New Alucobond® Materials Brochure



Totally new Alucobond® Material brochure in dramatic new format illustrates the use of Alucobond Material a variety of innovative applications and colors. Alucobond® Material is the original ACM (aluminum composite material) and has been used on more than 50,000 buildings worldwide. Alucobond Material is always the affordable solution. For more information, call 800-382-6445 or visit www.alusuisse-comp.com

Alusuisse Composites, Inc.

CIRCLE 194 ON INQUIRY CARD

Matrix Composites Inc.

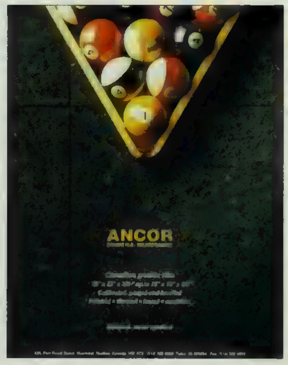
MADERA®
Solid Surface Tile

Chosen by a distinguished panel of Architects for Architectural Record as one of the best new finishes for 1999, Madera Tile is made from an exciting new material known as Lignasil®. Using 100% post-use hardwood in a patented process, Madera forges new ground in "green" building material technology. Several textures are available in an exciting range of solid colors and unique color blends for your sustainable design solutions. Call 800-767-4495 www.maderatile.com

Matrix Composites Inc.

CIRCLE 195 ON INQUIRY CARD

Ancor Granite Tile

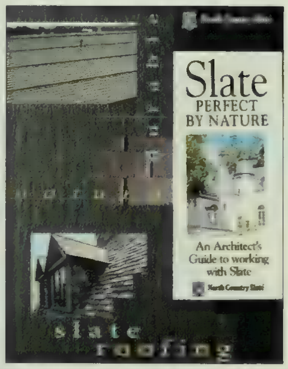


Ancor produces over fifty No. American and Imported granites in a full range of colors and finishes for residential, commercial and institutional use. Standard format is 12 x 12 x 3/8"; other sizes up to 18 x 18 x 1/2" available. Honed finish tile is particularly suitable for high traffic commercial areas, 435 Port Royal West, Montreal, Quebec, H3L2C3, Canada. Ph: 514-385-9366, Fax: 514-382-3533.

Ancor Granite

CIRCLE 196 ON INQUIRY CARD

Slate Roofing

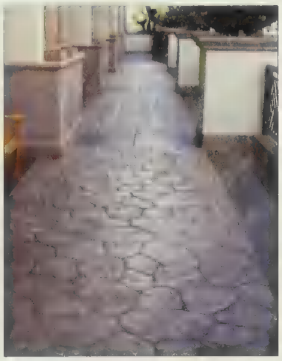


Natural North Country slate. For enduring character, nothing else compares. No wonder—it's perfected by nature! Free product brochure showcases the wide variety of sizes and colors, and comes with our Architect's Guide to working with this remarkable roofing material.

North Country Slate

CIRCLE 197 ON INQUIRY CARD

Design Competition Aspen, Colorado



For over four decades, Bomanite cast-in-place, colored, imprinted and textured concrete has provided quality architectural concrete paving. Choose from more than 100 patterns and 25 standard colors. Custom colors also available. Call 559-673-2411 for a Bomanite contractor near you or visit our web site at www.bomanite.com

Bomanite Corp.

CIRCLE 198 ON INQUIRY CARD

Roppe North Coast Collection Solid Vinyl Tile

Roppe's North Coast Collection features realistic wood, marble, granite, and stone looks with the wearability and stain resistance of high quality solid vinyl! Unlike most other vinyl tiles, North Coast is solid vinyl (no fillers) with an extremely thick wear layer. (Pictured: Lakewood Quarters, Baton Rouge, LA.) For FREE samples & brochure call our sample hot line toll free: 877-SAMPLE-4.

Roppe Corporation

CIRCLE 199 ON INQUIRY CARD

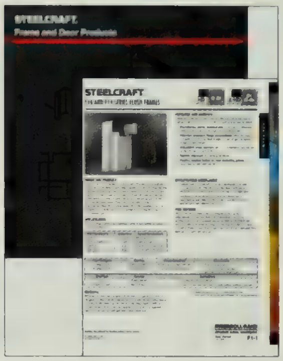
Metal Ceilings For Designing The New Millennium

Chicago Metallic Corporation® introduces its' special edition 2000 portfolio of industry leading ceiling suspension systems. The catalog focus is on standard ceiling grid systems with emphasis on both designer and functional systems. Also detailed are specialty products including perimeter curved/straight trim, fiberglass and vinyl-gyp ceiling panels, fiberglass reinforced panels (FRP) and the newly introduced drywall grid system. 800-323-7164.

Chicago Metallic Corporation

CIRCLE 300 ON INQUIRY CARD

Steelcraft Spec Manual



The Steelcraft Spec Manual is designed as an educational tool for architects, specification writers and distributors. It includes product details, specifications and fire rating information on all Steelcraft products including frames, doors, lites and louvers, and architectural stick systems. For more information call 800-930-8585. www.steelcraft.com

Steelcraft

CIRCLE 301 ON INQUIRY CARD

Signature Aluminum Paneling

Signature Aluminum Paneling Systems by MóZ Designs, Inc. are designed and fabricated for commercial interior and exteriors. There are many brilliant colors and grain patterns to choose from. Suggested applications include column covers, wall paneling, decorative privacy screens, ceiling pan inserts, canopies, display units, furniture, signage etc. Call 510-444-0853 or www.mozdesigns.com

MóZ Designs, Inc.

CIRCLE 302 ON INQUIRY CARD

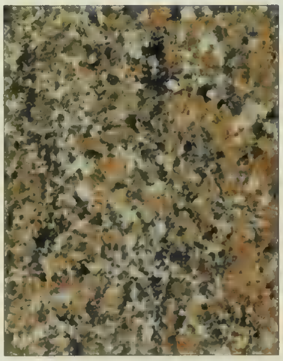
Vertical Platform Lifts

The National Wheel-O-Vator Co., Inc. designs the Vertical Platorm Lift with Quality, Dependability, Customization and Service in mind. We are committed to manufacturing the best vertical platform lift in the business. When your number one need is accessibility for a new home, pre-existing home or commercial application, call National Wheel-O-Vator at Design Line 800-968-5438. E-mail: wgreaves@wheelovator.com Web Site: www.whelovator.com

National Wheel-O-Vator

CIRCLE 303 ON INQUIRY CARD

New Granite

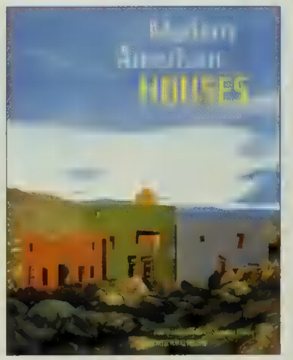


Stony Creek Granite is a pinkish, variegated stone without equal. The quarry has been in continuous operation for over 170 years. Stony Creek granite panels were used on the base of the Statue of Liberty, cladding for the Brooklyn Bridge, Philip Johnson's At&T Headquarters in New York City & the Bristol-Myers Squibb facility in Wallingford, CT. Granicor is one of the world's most advanced granite fabricators with the largest sawing capacity in North America. GRANICOR 418-878-3530 US SALES 352-326-8139

GRANICOR

CIRCLE 304 ON INQUIRY CARD

Modern American Houses



This 230-page book is packed with color photographs of more than 75 houses featured in Record Houses since 1956. New essays explore the evolution of home design decade by decade–Thomas Hines on the '50s, Robert Campbell on the '60s, Suzanne Stephens on the '70s, Charles Gandee on the '80s and '90s. $49.50. To order please call 212-904-4635.

Record Houses

CIRCLE 305 ON INQUIRY CARD

ADVERTISEMENT

The Irideon® AR6™ Recessed Luminaire

ETC's newest innovation in automated lighting projectors. Features an unobtrusive, recessed mounting arrangement w/color change capability, patented Vari-Image™ patterns, & motorized beam movement. Installs in most ceilings w/no part of the fixture extending below the finished ceiling. Lamp, color filters, patterns, lenses & electronics are easily accessed through a removable trim cover. Available w/various lamps & optional features giving a range of intensity, performance & price options.

ETC

CIRCLE 309 ON INQUIRY CARD

Cast Aluminum Lighting

Sun Valley Lighting manufactures an extensive line of Standard & Custom cast aluminum lighting poles & fixtures in all period styles. Our 50 years of design & manufacturing experience provides you with unexcelled product quality. Our staff of designers, engineers, and tool makers are here to assist you. Our in-house foundry assures quality and prompt delivery at competitive costs.

Sun Valley Lighting

CIRCLE 307 ON INQUIRY CARD

UV/FX Scenic Productions

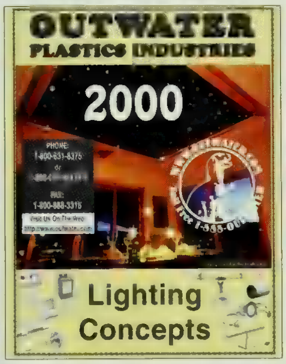
UV/FX
SCENIC PRODUCTIONS
THE NEXT ULTRA-VIOLET EFFECTS HAS
AND WE DO DUAL IMAGES RIGHT!

UV/FX wrote the book on Ultra-Violet Visual Effects which are designed, art directed and painted (and now even printed). UV/FX specialize in Dual Images, Complete Invisible treatments, Day to Night Effects, 3-D scenery and more for changing themed walls, backdrops and ceilings. www.uvfx.com, Tel/Fax 310-392-6817.

UV/FX

CIRCLE 308 ON INQUIRY CARD

Outwater Stocks the Lights You Need!

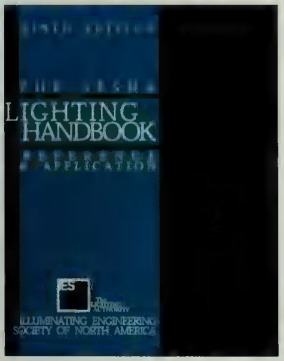


Low-Voltage Halogen Lighting; Fiber Optic Lighting; Track Lighting; Recessed Lighting; Showcase Lighting; Shelf & Under Cabinet Lighting; Exhibit & Picture/Portrait Lighting; Cove Moulding Lighting; Task Lighting; Canister Lighting; Swivel Lighting; Adjustable Spotlights; Linear Lighting; Ambient Lighting; Curio Lights; Fluorescent Lighting; Rope Lighting; All Related Accessories. Free Catalog. Call: 888-OUT-WATER; Fax: 800-888-3315. Web site: www.outwater.com

Outwater

CIRCLE 306 ON INQUIRY CARD

The Illuminating Engineering Society of North America



IESNA was founded in 1906 to advance knowledge & disseminate information for the improvement of the lighted environment to the benefit of society. IESNA serves 10,000 members & offers over 100 standards & publications, the IESNA Lighting Handbook, LD+A, & hosts LIGHTFAIR & the Annual Conference. To receive a copy of the Lighting Source Catalog, or to order publications, contact Albert Suen at 212-248-5000, ext. 112 or e-mail asuen@iesna.org. Visit our website at www.iesna.org

IESNA

CIRCLE 310 ON INQUIRY CARD

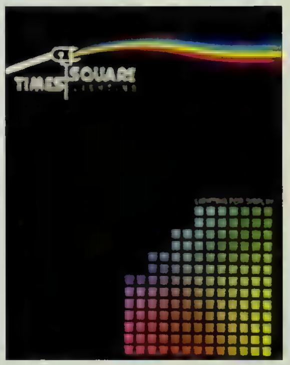
The L.C. Doane Company

We Wrote the Book on Toughness. Our lighting has withstood the worst of environments and toughest abuse onboard U.S. naval vessels. In fact, we set the standards for today's naval ship lighting. Now we're making lights for demanding industrial, correctional and institutional use. Our products go through rigorous testing for shock, vibration, closure, noise, etc. The L.C. Doane Company, P.O. Box 975, Essex, CT 06426, Tel: 800-447-5006, Fax: 860-767-1397.

The L.C. Doane Company

CIRCLE 311 ON INQUIRY CARD

Lighting Fixtures

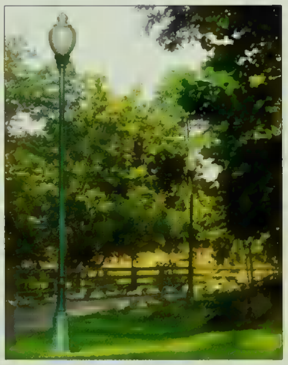


Times Square Lighting's condensed catalog contains our complete line of line and low voltage specification grade lighting fixtures. Numerous mounting options as well as accessories for our fixtures are available. Times Square Lighting, Rte. 9W, Stony Point, NY 10980, 914-947-3034.

Times Square Lighting

CIRCLE 312 ON INQUIRY CARD

Decorative Posts & Poles



More than 30 years of experience comes together in each Hapco aluminum pole design. The Abingdon, Va., based company is an engineering leader with in-house design analysis and testing facilities. Hapco specializes in conventional and decorative lamp posts and architectural street light poles. Mounting heights range from eight to 45 feet.

Hapco

CIRCLE 313 ON INQUIRY CARD

DURA ART STONE

TO MARK OUR 65th ANNIVERSARY

WE VE GONE BACK TO
OUR HERITAGE

We began in 1935 with ornament and classic old world design. During the intervening years we have offered many different products and innovations but have always concentrated on quality and attention to detail. Now with our new ***Sculpture, Garden and Ornament Collection*** *catalog, we capture the classic and traditional along with the contemporary and the whimsical. We've come home. Won't you join us?*

Call for our new catalog or review it on the web

DURAARTSTONE.COM

800-821-1120

CIRCLE 366 ON INQUIRY CARD

Visit us at the AIA Expo 2000 in Booth 1227

START WITH

e-Builder™

FINISH ON TIME AND ON BUDGET.

Project Specific
Web sites by e-Builder™
are easier, more effective
and work better.

(Someone had to say it.)

Welcome to the PCL Arena Project
MP INTERACTIVE CORPORATION
The nation's largest provider of Project Specific Web Sites in 35 states and 2 countries
http://pclarena.e-builder.net/
Welcome to the
Staples Center Project
Los Angeles, CA
LA Sports and Entertainment Center

STAPLES CENTER ARENA
LOS ANGELES, CA

TO LEARN MORE ABOUT INTERNET BASED PROJECT COMMUNICATIONS CALL:
800.580.WEBB
www.e-builder.net
info@e-builder.net
CIRCLE 354 ON INQUIRY CARD)

Stop by the industry's most visited commercial construction site.

construction.com

The Construction Marketplace — for the best projects, products and industry insight.

Project leads from fwdodge.com

Product information from sweets.com

AEC industry news from enr.com, architecturalrecord.com and designbuildmag.com

Also, try our new online cost estimator and browse for job opportunities.

www.construction.com

McGraw-Hill Construction Information Group

F.W.DODGE ARCHITECTURAL RECORD Sweet's Group ENR Design•Build

CIRCLE 355 ON INQUIRY CARD

Divisions of The McGraw-Hill Companies

POSITIONS AVAILABLE

CAD DESIGNER

CAD Designer of Architectural Models sought by architectural and interior design firm in New York, NY. Must have Bach in Architecture or Architectural Design & 6 mos exp using CAD systems, translating principal architect's conceptual sketches & construction drawings into formats for construction of 3-dimensional prototypes & presentation models. Respond to: HR Dept, Gabellini Associates, 665 Broadway, 7th Fl, New York, NY 10012.

ARCHITECT – DESIGN/PRODUCTION

(20F10059) Entry level position to provide professional design service for the Renovations Unit of the Construction Management Department. Assist sr. architects in preparation/review of design drawings and specifications; produce scale drawings free hand and by AutoCAD; and conduct studies, reports and cost estimates for renovation projects that vary in size up to $2 million. Projects are university-wide and require the mobility to travel to job sites and perform inspections, including climbing ladders, working in uneven terrain and environmental conditions. Min. Quals: Bachelor's degree in architecture and 3 yrs. related architectural experience. The ideal candidate will possess interior/space planning; ability to take direction from senior level architects; ability to prepare drawings free-hand and by AutoCAD; knowledge of specifications; good writing skills to prepare reports and other written documentation, and good interpersonal communication. Excellent benefit package inclusive of free tuition for employee, spouse and dependent children and 22 vacation days accrual per year. Resumes accepted until filled. Send resume (noting control #) to: Office of Employment Services, University of Cincinnati, PO Box 210117, Cincinnati, OH 45221-0117. AA/EOE

INTERIOR ARCHITECT

Interior Architect for European Furniture & Accessories retail company located in Coral Gables, Florida. 40-hour week, 9:30 AM - 6:00 PM, $50,000 per year. Will be responsible for layout and display of everything in showroom, developing design concepts and plans for showroom decoration, products, and positioning; supervising and coordinating warehouse deliveries and showroom samples; create concepts, layout plans and designs and execute them in showroom setting. Will be involved in the space planning and spatial design for major clients. Will use CAD in design and planning. Bachelor's Degree or equivalent in Architectural Design. 2 years experience in job offered or 2 years as Architect/Interior Designer. Submit resume to: Bureau of Workforce Program Support, P.O. Box 10869, Tallahassee, FL 32302-0869. Re: Job Order No. FL-2065773.

PRINCIPAL ARCHITECT
CITY OF LOS ANGELES

City Architect oversees 50 emp in Bureau of Engineering, reports to the Deputy City Engineer for Architectural & Eng Services. Has substantial contact with City Engineer & makes recommendations to the Public Works Bd of Commissioners & the Mayor & City Council. Min quals incl Bachelor's Degree in Architecture, registration as an architect in California, & at least 2 yrs exp at level equivalent to LA Sr. Architect position. Salary tops out at $109,182 & City has a highly competitive benefit pkg. Send resume, cover letter, current salary, & 3 work-related references by May 26, 2000 to Shannon Associates, 740 University Ave., Suite 130, Sacramento, CA 95825. (916) 567-4280; Fax (916) 567-1220; Email: resumes@shannonassoc.com; visit the Los Angeles website at www.ci.la.ca.us

ARCHITECTS

At the Project Architect + Project Manager levels are required for client firms in NC, SC, PA, OH, FL and other locations nationally for experienced professionals with health care, commercial/office, educational and/or corporate project backgrounds. All positions are permanent status with firm paid relocation, fees, etc. Forward confidential resume to Greg Marshall, PE, RA @ G. Marshall Assoc., P.O. Box 66083, Chicago, IL 60666 or fax: 773-736-1802 or e-mail gmarshallassoc@hotmail.com. Nationally known Architectural Recruiters for thirty years.

DIRECTOR OF ARCHITECTURE

Position available with client firms in FL, IL, PA and other locations nationally for experienced professionals with retail, residential, hospitality and/or senior living background. Operations and client relations experience mandatory. Positions are permanent status with firm paid relocation, fees, etc. Forward confidential resume to Greg Marshall, PE, RA @ G. Marshall Assoc., P.O. Box 66083, Chicago, IL 60666 or fax: 773-736-1802 or e-mail gmarshallassoc@hotmail.com. Nationally known Architectural Recruiters for thirty years.

ARCHITECT

Qualifications: Must have at least a Bachelor degree in Architecture or other related field. Must have documented proof of 1 year experience as an Architect. Must have proof of legal authority to work in the U.S. Duties: Under direct supervision of Project Manager, prepare and review all construction documents required for building construction, including: data; site-, floor-, ceiling-, roof- and demolition-plans; exterior and interior elevations and sections. Detailed system integration for each building material used, including coordination of manufacturer-produced details and warranty requirements. Coordination of schedules, defining materials placement, type, size, and manufacture. Coordination of consultants' plans such as civil/structural/mechanical engineers, plumbers, electricians, fire safety specialists. Ensure project compliance with local municipal zoning and building codes and regulations. Work product to be monitored by Project Manager. Area of Employment: Colorado Springs, Colorado. Salary: $35,943.25/yr, 40 hr/wk. Contact: Send resume to Jim Shimada, Colorado Department of Labor and Employment, Tower 2, Suite 400, 1515 Arapahoe Street, Denver, CO 80202-2117; refer to Order Number CO4655040.

INTERIOR DESIGNER

Under supervision of licensed architect, perform preliminary space planning, development and conceptual design; apply design and planning principles as it relates to the applied skill of coordinating colors, materials and three-dimensional forms; prepare preliminary design, development and presentation drawings; interpret plans and specifications as required; utilize principles of space planning, select elements of construction and prepare construction documents; generate interior design development and presentation drawings using computer-aided design and drawing software Microstations. Require: Bachelor of Science in Interior Design/Industrial Design and six months experience in the job offered. Must demonstrate ability to perform stated duties by portfolio. Salary: $25,000 to $29,000 per year, 8:30 am to 5:30 pm M-F. Mail resume to: Ruth Hanna, Human Resources, Cooper Carry, Inc., 3520 Piedmont Road, N.E., Suite 200, Atlanta, GA 30305.

ARCHITECT

Architectural firm in Durham, NC requires an Architect to research, plan and design projects for commercial clients. Bachelor's degree in Architecture required. Salary commensurate with experience. Send resume to P.O. Box 1090, Durham, NC 27702.

ARCHITECTS
AND
INTERIOR DESIGNERS

BUILD YOUR FUTURE WITH ASC

Our increased focus on Architect and Engineering design has created openings for Architects in our Chicago, IL & Cleveland, OH offices.

To meet the challenges of this technical position, you must:

- have a BA/BS in architecture or interior design w/ architecture experience
- have minimum 5 years of experience in a fast-paced project environment
- demonstrate the ability to handle multiple projects and priorities, and lead multi-disciplinary design teams
- have excellent communication skills and the ability to periodically lead a project design team
- have some experience with project management tasks
- have strong detailing, design coordination, and construction document preparation
- be familiar with Microsoft Windows

A license, AutoCAD 14, experience in interior design, estimating experience, or a structural background is a plus.

Please forward your resume to:

ASC Services Company
300 West Washington Street, Suite 200
Chicago, IL 60606
Fax: 312-214-1546
E-mail: hrdept@ascservices.com
www.ascservices.com

ASC
Services Company, L.L.C.

We are an equal opportunity employer M/F/D/V.

ASC Services Company

COLORADO SEEKS
ARCHITECTS AND INTERNS

Looking for a job in the field of architecture? View our Free Job Board listings @ www.aiacolorado.org. Listings updated weekly.

INTERIOR DESIGNERS/ARCHITECTURE/ FURNITURE DEALERSHIPS

American Personnel specializes in corporate designers and furniture specialists, established since 1969, are in constant search for prospective employees, to fill our various job opportunities with our national clients. Project Managers/asst. Project Mgrs./Sales associates/Sales assts./AutoCAD operators/Administrative support/Entry level designers. Clients are based out of New York City, New Jersey, and other locations. For more details on our services, please feel free to call Frank Cassisa - Executive V.P., Ph: 212-233-2900, Fax: 212-233-3043 or after 7pm at 732-360-0655.

ARCHITECTS NEEDED!

Senior Level Architects, are you interested in a career change or are you searching for better opportunities? Executive search and recruiting firm with 25+ years of experience in the architectural and engineering industry serving the nation's leading A/E firms. Please submit your resume to: CSS Search and Recruiting, c/o Duane McClain, 115 5th Ave. S., Suite 501, La Crosse, WI 54601. Fax: 608-784-4904. Telephone: 608-784-4711. Email: css@csssearch.com. For a current list of our job openings, log on to our web site at http://www.csssearch.com.

POSITIONS AVAILABLE

PROJECT ARCHITECT

Bread Loaf Corporation, Vermont's largest planning, architectural and building firm, is looking for a Project Architect to add design experience and innovation to our highly successful and diversified team. We are searching for a passionate individual with exceptional design and technical experience in the commercial/industrial/institutional markets. Ability to problem-solve, participate in business development and work in a team environment with Estimators, Designers and Contractors preferred. This unique position will provide a career opportunity to practice Architecture with the responsibilities of Principal, Design Architect and Project Manager.

Bread Loaf offers competitive salary, excellent benefits and a relaxed work environment. Come be apart of the fastest growing method of project delivery.

Send your resume to:

Bread Loaf Corporation
Mary Mitiguy
1293 Route 7 South
Middlebury, VT 05753
Phone: (802) 388-9871
Fax: (802) 388-3815
Email: mmitiguy@breadloaf.com
www.breadloaf.com

Bread Loaf
CORPORATION
Planners Architects Builders

INTERN ARCHITECT

Under supervision of licensed architect, perform preliminary architectural design, computer-aided drafting using AutoCAD and Microstation, detailing, freehand sketching, color rendering and computer generated 3-dimensional conceptual models and animation; prepare schematics and design development drawings; coordinate with structural, mechanical and electrical drawings; and prepare construction documents. Req: Master of Architecture or foreign degree equiv. & demonstrated ability to perform stated duties by portfolio. Salary: $31,500-38,000 per yr. 8:30 am to 5:30 pm, M-F. Send resume to Cooper Carry, Inc., 3520 Piedmont Rd., Suite 200, Atlanta, GA 30305. Ref. JL001.

DIRECTOR OF PLANNING AND DESIGN

The Sea Ranch, CA - (Salary: currently $62,000 annually.) This is a management position in a 2400 unit homeowner association located on the beautiful northern Sonoma coast. The Sea Ranch is an internationally acclaimed residential-recreational development where man-made structures exist in the landscape instead of intruding on it. This position reports to the CEO; supervises a staff of four; serves as the key advisor to the Design and Planning Committees and is responsible for continually monitoring and maintaining the design and environmental quality of The Sea Ranch. We are seeking a dynamic and energetic person who: is committed to excellence in architectural design; possesses a Bachelor's degree in architecture, has seven years of current professional experience in design review including staff supervision and has excellent interpersonal and communications skills. Position available June 1, 2000. Apply by: Position open until filled. Submit a detailed resume with references to: CEO, P.O. Box 16, The Sea Ranch, CA 95497.

MICHAEL LATAS & ASSOCIATES

Executive search and professional recruiting services. Serving the construction industry exclusively nationally and internationally since 1975.

Your premier source for executive, managerial, and difficult-to-fill professional-level needs. Contact our Architecture/Engineering Division.

Michael Latas & Associates
1311 Lindbergh Plaza Center
St. Louis, MO 63132

(314) 993-6500 ■ Fax: (314) 993-0632
(800) 280-7811 ■ http://www.Latas.com

LABARGE ENTERPRISES

Registered Architects and Architect Engineers' for Design-Build projects in TV-Broadcast Studios, Hospital and Health Care, e-Commerce Buildings data processing and call centers and telecommunication facilities. Positions nationwide—fax 972/980-0090 website www.hardhatjobs.com

PROJECT DIRECTOR

Marriott International, Inc., named by Fortune Magazine as one of the "100 Best Companies to Work for in America" (1998), has an immediate opportunity for a Project Director in the Architecture & Construction area in Santa Ana, CA. Responsibilities include: being the single point of accountability for delivery of Projects for Marriott's limited service and extended stay products (Courtyard, Fairfield Inn, Residence Inn, TownePlace Suites, and Springhill Suites) from inception to turnover, within budget and to the standards agreed to with the Client. Qualifications: BA/BS degree in Architecture, Engineering, Design, Construction, Building Construction preferred, but not required; 10+ years of experience in the Construction Industry - previous experience in hotel/hospitality construction management and design management preferred. The ideal candidate will have solid technical and project management skills, good interpersonal, administrative and leadership skills, and good business judgement and creative problem-solving attributes. Expect up to 30% travel. Marriott offers competitive salaries and excellent benefits. For immediate consideration, send your cover letter and resume for Ad Code AC2200 to Marriott International, Inc., Marriott Drive, Dept. 935.51, Washington, DC 20058, Fax (301) 380-2111 or Email: staffing@marriott.com EOE/M/F/V/D.

FACULTY POSITIONS AVAILABLE

ASSISTANT PROFESSOR
DEPARTMENT OF ARCHITECTURE
BALL STATE UNIVERSITY
MUNCIE, INDIANA

Tenure-track position in architectural design and technology available August 18, 2000. Primary responsibility: teaching in design studio and in one or more areas such as architectural professional practice and technology. Minimum qualification: Master of Architecture or master's degree in a related field. Preferred qualifications: professional registration in architecture; record of excellence in professional practice, teaching, and/or scholarship. Send letter of application; curriculum vitae; three letters of reference; official transcript of highest degree earned; samples of professional and/or student work; and evidence of teaching, practice, and research to: Chair, Search Committee #3, Department of Architecture, Ball State University, Muncie, IN 47306 (Tel: 765.285.1900; Fax: 765.285.1765). Review of applications will begin April 14, 2000 and will continue until the position is filled. (www.bsu.edu) Ball State University is an equal opportunity, affirmative action employer and is strongly and actively committed to diversity within its community.

ESSEX COUNTY COLLEGE

FACULTY POSITION / FALL 2000
ARCHITECTURAL TECHNOLOGY PROGRAM

Essex County College, Newark, NJ, invites applications for full-time tenure track faculty position in our architectural technology program. The individual will be responsible for teaching, program recruitment, student advisement, and developing meaningful professional and scholastic relationships in the community. Knowledge of CAD essential. The ideal candidate holds a Master's degree, professional registration in Architecture, teaching experience and a minimum of 5 years of professional experience. Candidates who are registered with 3 years of professional and relevant teaching experience considered. Salary is commensurate with experience. Screening of applicants will continue until the position is filled.

Send letter of application, resume, salary requirements to:

Human Resources Office
Essex County College
303 University Avenue
Newark, NJ 07102
or fax to 973-877-3409

EOE / AAE

RENDERINGS

ARCHITECTURAL RENDERINGS

Fortune 500 clientele, Watercolor: 11" x 17" $980 + tax, 3 days. 16" x 22", $2,399 + tax, 5 days. Visa, MC, AmEx. Mayron Renderings, (212) 633-1503 or 1-800-537-9256. Email: mayronrend@rcn.com

BUSINESS OPPORTUNITIES

FIRM AVAILABLE

Midsize Denver Architectural firm available for acquisition. Client base established over a twenty-year period and current projects reflect an 80% repeat Client ratio. Excellent opportunity to expand into the active Denver market. Submit letters of interest to P.O.Box 481104, Denver, CO 80248-1104.

SPECIAL SERVICES

3D MODELS

Architectural Communications provides architects, engineers, planners, and developers with 3D models ranging from planning to presentation models. We are constantly evolving and as such are interested in any project, no matter how bizarre. To discuss a project, Tel. 315-725-3013.

GreenwayGroup
(800) 726-8603
www.GreenwayGroup.net
Premier Research, Consulting and Publishing for A/E/ID/C Entrepreneurs

Almanac of Architecture & Design

There is no other book like the annual 584-page *Almanac of Architecture & Design*. It is the industry's definitive reference, with hundreds of categories of information on individuals, organizations, schools, rankings and much more. Available through fine booksellers; softcover, $34.95 retail.

Visit our Web Site

www.architecturalrecord.com

SPECIAL SERVICES

www.woodwindows.com

COMPUTER SERVICES

Power, Functionality & Attention to Detail

14

FLATLAND 6

...Abundant 2D Tools; Easy to Learn and Use...
...Powerful and Useful...
Cadalyst Magazine, October 1996

Call (800) 247-2032 for Free Working Demo

FLATLAND 6... Serious Two Dimensional Drafting for Building Design Professionals

Ashcraft Architectural Computer Graphics
220 Glen Street, Glens Falls, NY 12801 (518) 798-4631 (800) 247-2032

CIRCLE 314 ON INQUIRY CARD

TO ADVERTISE

Contact

CHERIE JOLLEY

at

801-974-2843

or

Fax 801-972-9409

HILLIER

Jeff Geldberg/Esto

Corporate - Education - Sci Tech
Princeton, NJ

Tired of just making buildings?

Do you want to make significant architecture that stirs the emotions and transforms our built environment?

We have **opportunities....**

- Academic Buildings
- Research Facilities
- Campus Planning
- Libraries
- Interiors
- Corporate Offices

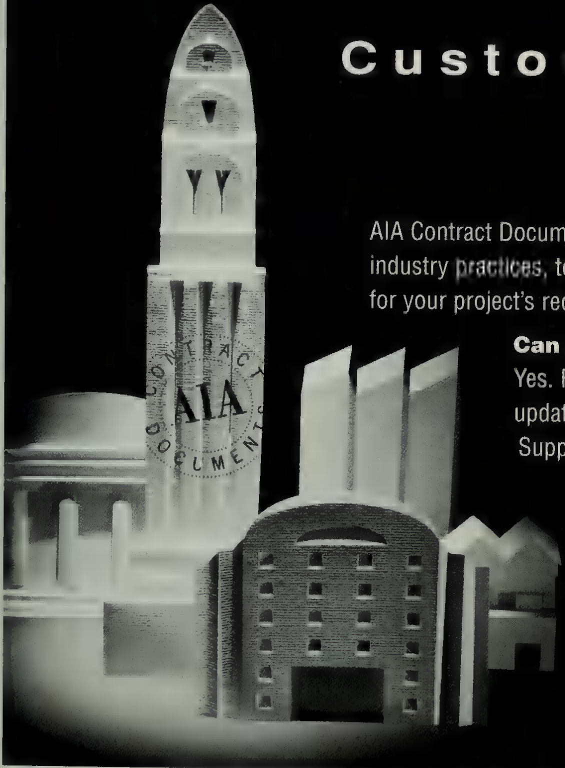
Hillier

We are seeking talented architects:

- leaders with 3-8 years experience
- interns with vision & motivation
- all with a passion for design & technology

Please call 609-452-8888 (ext. 5514)
employment@hillier.com

CIRCLE 357 ON INQUIRY CARD



Customize to meet your **project's needs.**

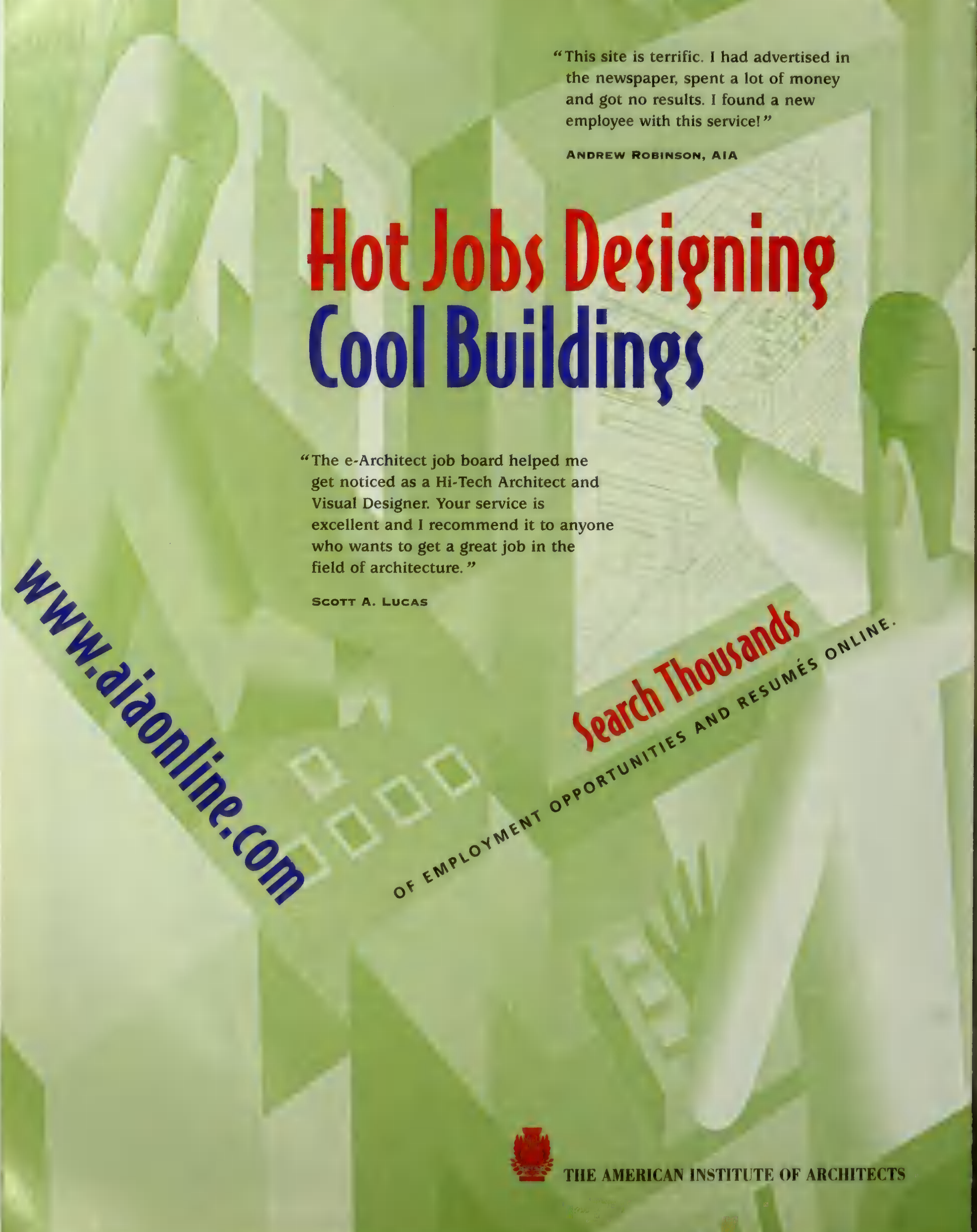
AIA Contract Documents adapt to meet your needs. They start you with the latest in construction industry practices, technology, legal precedents, and indemnity insurance. They're easy to adjust for your project's requirements. Get the contracts that are both flexible and strong.

Can AIA Contract Documents meet your specs?
Yes. Find the Distributor with Documents that are right for any job. For automatic updates on Document changes as they occur, be sure to ask about the Document Supplement Service. Call 800-365-2724.

AIA CONTRACT DOCUMENTS. You can shape them.

AIA

AIA Contract Documents are a product of The American Institute of Architects.



"This site is terrific. I had advertised in the newspaper, spent a lot of money and got no results. I found a new employee with this service!"

ANDREW ROBINSON, AIA

Hot Jobs Designing Cool Buildings

"The e-Architect job board helped me get noticed as a Hi-Tech Architect and Visual Designer. Your service is excellent and I recommend it to anyone who wants to get a great job in the field of architecture."

SCOTT A. LUCAS

www.aiaonline.com

Search Thousands

OF EMPLOYMENT OPPORTUNITIES AND RESUMÉS ONLINE.

THE AMERICAN INSTITUTE OF ARCHITECTS

It's your room.
SUB-ZERO
Do what you want in it.

Ask for your free refrigeration and wine storage catalog. Call 800-444-7820 or visit www.subzero.com

CIRCLE 364 ON INQUIRY CARD

Camilo Vergara sees treasures in a trashed urban landscape

Interviewed by Ingrid Whitehead

As any flea-market enthusiast knows, there is a certain mystery, beauty, and wonder surrounding an item that has been created with obvious care, used, and discarded. The work of Camilo José Vergara takes his passion for used and abandoned "things" to extremes. For more than 20 years, the Chilean-born sociologist and photographer has been documenting the changes—and often the decay—of our nation's inner city buildings and neighborhoods. His books The New American Ghetto *(Rutgers University Press, 1997) and* American Ruins *(Monacelli Press, 1999), and his exhibitions (most recently at the National Building Museum in Washington D.C.) reveal how buildings are often the victims of the changing, urban American scenery.*

Q: *Why should we see images of ruined buildings?* Because these images reveal the history of this country. Not in a loud way, but in a true way. The U.S. has ruins that take your breath away; ruins to a scale unlike any other country. Architects spend so much time planning and designing and fighting to preserve the integrity of form. Then time goes by and the unpredictable begins. Why are these structures allowed to decay? They deserve better. In a way, my photos are an homage to what was once created with great care, used, and left to crumble.

You've photographed many urban neighborhoods over time—Philadelphia, Detroit, the Bronx. What conclusions have you drawn from what you've witnessed? We're in the middle of a process where some of the buildings that were most important in their time are being razed. That whole RCA complex in Camden, New Jersey. The Packard Plant in Detroit. Post offices. Courthouses. When these things go down, what replaces them? Low quality buildings. When the first building went up people thought those neighborhoods deserved a high-level of attention. The second time around that's not the case.

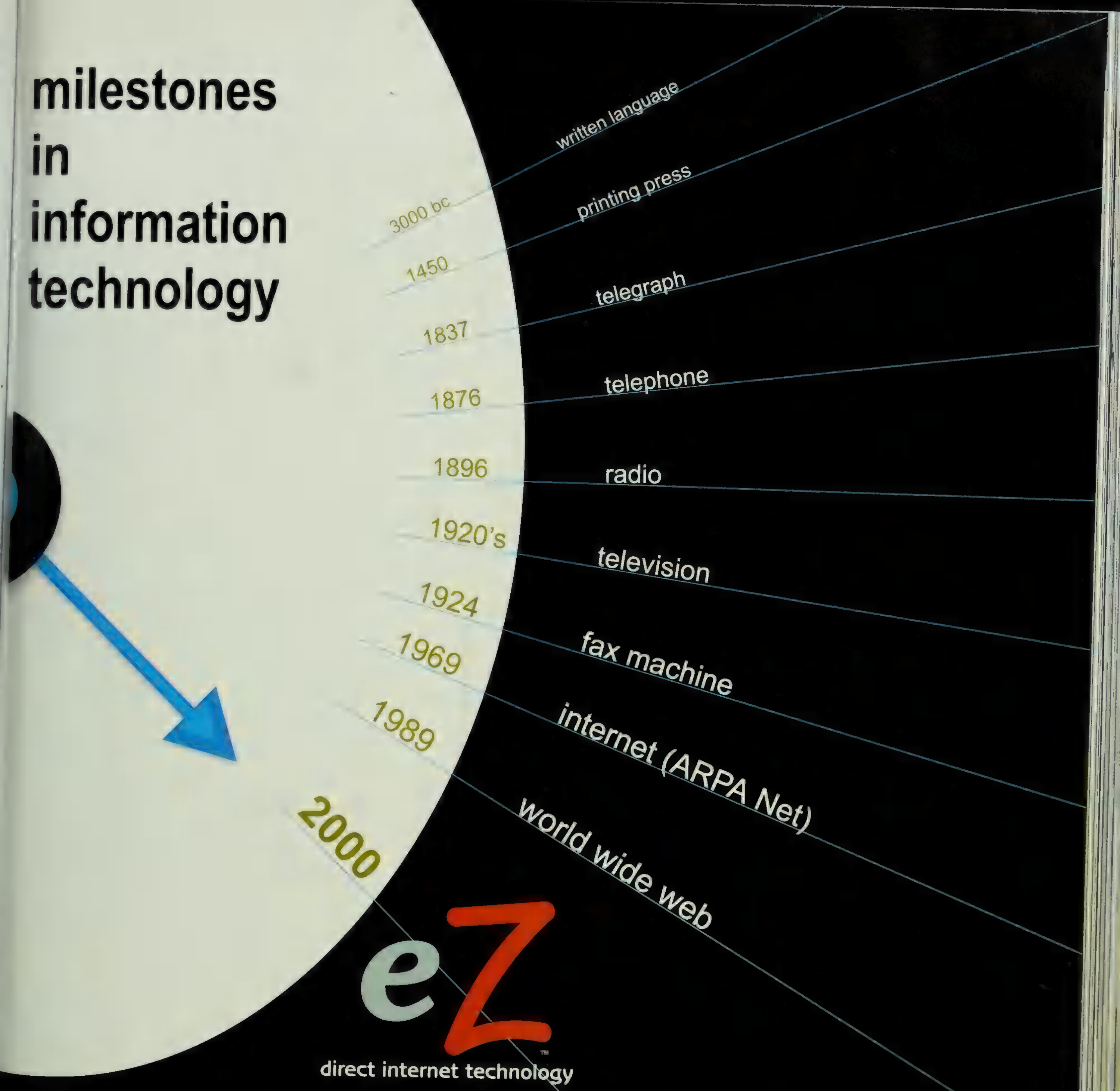
Your new show, El Nuevo Mundo, *takes your work in another direction. What brought about the fascination with documenting the Latino sections of downtown Los Angeles?* I'm fascinated with the resourcefullness of people. The Latinos in South Central Los Angeles have created a little civilization using materials that were just left behind when all the whites and blacks moved to the suburbs. Nobody here is waiting for the government to come in and fix things up. They do it themselves. The activity here is amazing.

It sounds like a positive situation, more than a negative one. So, why are you getting flack from the Latino community? There is a climate of nervousness in this community. Some of the Latinos say, 'If you want to document us, show us as doctors and lawyers in our SUVs.' They fear that my work brings a spotlight on them, and that they're being represented as not keeping up. They think that when I show the re-use and the decoration that people will see these things as loud, vulgar, and tacky. But the way people decorate, the ornamentation, the way they make their environment work for them, that is what interests me.

What will you do next? I'd like to do a book on Latino Los Angeles, with a comparison to the Latino experience in New York. And, of course, I'll keep documenting the large industrial cities in the U.S. There's no way you can tell what will happen to these buildings. It's a mystery. And if I don't tell the story, who will?

Photograph by Silvia Otte.

milestones in information technology



eZ is a new internet technology that makes direct PC to PC connections from multiple sites anywhere across the internet, wide area, or local network. This revolutionary direct internet connection allows quick and easy "Real Time" collaboration on files that never leave your control. eZ is the new paradigm in communication. Try it for free today!

only $199!

1-888-990-0900

www.eZmeeting.com

CIRCLE 359 ON INQUIRY CARD

Cambridge, Massachusetts 02138

Telephone 800 OK KROIN
Telefax 617 492-4001

Classical Allusion...
Kroin sanitary fittings and
polished stainless steel basins
reflect the highest standards
of quality and design.

Design: Prof. Arne Jacobsen, MAA
Selected for the Design Collection, MoMA.

For information Circle 100.

ctural Record
ıne

ITECTUR
RECORD

BURLINGAME PUBLIC LIBRARY
3 9042 05168704 1

A GEHRY CAFETERIA THAT SIZZLES

BURLINGAME
JUN 16 2000
LIBRARY

Architects Speak on the State of the Profession

ondon Transformation:
TATE GALLERY OF MODERN ART

Special Section: Computer Technology

Spot the two terms that don't go together:
1. Suspended Ceiling
2. Grid-hiding Visual
Until now.

CEILING SYSTEMS

[**Between us, ideas become reality.™**]

Introducing Optima Vector™, the revolutionary new acoustical ceiling with virtually no visible grid.

With Optima Vector, now you can achieve a clean, nearly monolithic look in a downward access suspended ceiling. That's because the unique Vector* edge detail provides a sleek ¼" reveal that minimizes the existing grid. In fact, the larger the expanse of open plan ceiling, the more effectively the grid disappears, leaving you with a grid-hiding, upscale visual. It works with existing standard 15/16" grid systems, which makes it perfect for renovations – avoiding costly, time-consuming grid removal, replacement or repainting. And because Optima Vector is a high performance open plan ceiling, you can count on superior sound absorption, light reflectance and durability.

Suspended ceiling. Grid-hiding visual. Now together, from Armstrong.

For more information, call 1-888-CEILINGS or visit our website at www.ceilings.com

*Patent Pending

Armstrong

CIRCLE 3 ON INQUIRY CARD

CEILING SYSTEMS

[**Between us, ideas become reality.™**]

LET YOUR IMAGINATION SOA

If you can envision it, we can help make it happen. Introducing our new Architectur Specialties Group, a technically savvy service team that can collaborate with you in designing custom ceiling applications that will redefine the ceiling plane. And offer you all new visual options with Armstrong WoodWorks™ and MetalWorks™ specialty ceilings. Call us today at 1-888-207-2321 or visit www.ceilings.com. And find out ho Armstrong can work with you to turn ideas into realities.

Armstrong

CIRCLE 111 ON INQUIRY CARD

ARCHITECTURAL
RECORD

06.2000

News

31 **Philadelphia plays host to this year's AIA Convention**
34 **Green solutions for waste water**

Departments

17 **Editorial: Dot.com mania***
22 **Letters***
55 **Correspondent's File: Sydney** *by Anne Susskind*
63 **Practice Matters: "One-Firm" Image** *by Kira L. Gould*
65 **Critique: Stanley Tigerman speaks** *by Andrea Oppenheimer Dean*
69 **Snapshot: Norfolk Armed Forces Memorial** *by I. Whitehead*
260 **Profile: Iara Lee** *by Clifford A. Pearson**

Features

76 **The Principals of Smart Growth** *by Andrea Oppenheimer Dean*
America's renewed appreciation for cities finds a new type of mayor installed in city halls across the country.
88 **The State of the Profession** *by Andrea Oppenheimer Dean*
Fifty architects, clients, and educators share their ideas about seven years of prosperity, a CAD revolution, and sustainability.

Projects

102 **Tate Modern, *London*** *by William J.R. Curtis**
Herzog & de Meuron
An old power station on the Thames gets a serious transformation.
110 **A Museum Critic Examines Herzog & de Meuron's Tate Modern** *by Victoria Newhouse**
The Tate, analyzed in the context of other spaces devoted to art.
116 **Condé Nast Cafeteria, *New York City*** *by Suzanne Stephens**
Frank O. Gehry & Associates
A sinuous titanium and glass interior world for a publishing giant.
124 **Beck Building, Museum of Fine Arts, *Houston*** *by David Dillon**
José Rafael Moneo Architect
An old-fashioned box whose contents are more important than the container, this museum building remains dense and introspective.
130 **Sticks Inc., *Des Moines*** *by Linda Hallam**
Herbert Lewis Kruse Blunck Architecture
Art and architecture meld in this company headquarters and studio.

WWW * **You can find these on our Web site at www.architecturalrecord.com, your source for more information on featured projects, vendor guides, software reviews, and more.**

Building Types Study 786

141 **Essay: The New New Loft** *by James S. Russell, AIA**
Enterprising architects are designing a new breed of office building.
144 **Swiss Re, *Armonk, New York*** *by Akiko Busch**
Schnebli Ammann Menz Architects and Partners
150 **Block 89, *Madison, Wisconsin*** *by Cheryl Kent**
Valerio Dewalt Train
156 **GSW Headquarters, *Berlin*** *by James S. Russell, AIA**
Sauerbruch Hutton Architects
162 **475 Brannan Street, *San Francisco*** *by James S. Russell, AIA**
Pfau Architects

Building Science & Technology

169 **Creating Safe and Appealing Public Stairs**
*by Wendy Talarico & Barbara A. Nadel, FAIA**
179 **Tech Briefs**

Computer Technology

189 **Introduction**
190 **Technology tools for marketing** *by Jerry Laiserin, FAIA**
198 **Cornell graphics lab sets high standards** *by B.J. Novitski*
205 **Digital Architect: AEC Systems** *by B.J. Novitski**
209 **Six new computer product reviews** *by Jerry Laiserin, FAIA**

Products

215 **Commercial Carpet**
219 **Product Briefs**
228 **Product Literature**

50 **What's at architecturalrecord.com**
232 **Dates/Events***
246 **AIA/CES Self-Report Form***
248 **Reader Service***
250 **Manufacturers' Spotlight**
255 **Classified Advertising***

The AIA/ARCHITECTURAL RECORD continuing-education opportunities are "Creating Safe and Appealing Public Stairs" [page 169] and "Wire & Cable Management of Open-plan Spaces," sponsored by The Wiremold Company [page 182]

Cover: *The Conde Nast Cafeteria by Frank O. Gehry in New York City Photograph © Eduard Hueber*

Above: *London's Tate, by Herzog & de Meuron. Photograph © Richard Bryant*

©2000 [illegible] Inc. Buzzsaw.com is a trademark of Buzzsaw.com, Inc. in the United States and/or other countries.

40 STORY DREAM
600 BOARD FEET OF FAXES
4000 CUBIC YARDS OF MEETINGS
EXPANDING SCHEDULE
SHRINKING BUDGET

NEED HELP BUILDING WHAT YOU DESIGNED IN THE FIRST PLACE?

buzzsaw.com™
an Autodesk® venture

Soon to be your favorite design tool: a secure project website that helps turn plans into buildings. A central workplace that links your designs directly to the construction team. From design to bidding to buying and overall construction administration, it's all in a day's work for Buzzsaw.com.

CIRCLE 117 ON INQUIRY CARD

ARCHITECTURAL
RECORD

EDITOR IN CHIEF	Robert Ivy, FAIA
MANAGING EDITOR	Ingrid Whitehead
DESIGN DIRECTOR	Anna Egger-Schlesinger
SENIOR EDITORS	Charles Linn, AIA Clifford Pearson Wendy Talarico Sarah Amelar
ACTING NEWS EDITOR	Jane Kolleeny
PRACTICE EDITOR	Elizabeth Harrison Kubany
PRODUCTS EDITOR	Rita F. Catinella
COPY EDITORS	Elizabeth Kugler, Lisa Rosman
ASSOCIATE ART DIRECTOR	Kristofer E. Rabasca
ASSISTANT ART DIRECTOR	Clara Huang
PRODUCTION COORDINATOR	Juan Ramos
EDITOR AT LARGE	James S. Russell, AIA
SPECIAL CORRESPONDENT	Suzanne Stephens
ILLUSTRATORS	Muriel Cuttrell, Kira Eng, I-Ni Chen
CONTRIBUTING EDITORS	Robert Campbell, FAIA, Andrea Oppenheimer Dean, David Dillon, Beth Dunlop, Blair Kamin, Jerry Laiserin, FAIA, Nancy Levinson, Lee Mitgang, Robert Murray, B. J. Novitski, Sheri Olson, AIA, Nancy Solomon, Michael Sorkin, Tom Vonier, AIA
INTERNATIONAL CORRESPONDENTS	David Cohn, Claire Downey, Tracy Metz, Naomi R. Pollock, AIA
SPECIAL PROJECTS	Charles Pinyan, Paul Herrmannsfeldt
RESEARCH DIRECTOR	John Conkling
DIRECTOR OF PROMOTION	Deborah Smikle-Davis
FINANCE	Michael Florek, Shlomo Messinger
CIRCULATION	Maurice Persiani, Brian McGann
ADVERTISING PRODUCTION MANAGER	Stephen R. Weiss
ADVERTISING DIRECTOR	David Johnson
VICE PRESIDENT/PUBLISHER	Elaine Shusterman

EDITORIAL OFFICES: 212/904-2594 Editorial fax: 212/904-4256 E-mail: *rivy@mcgraw-hill.com*
Two Penn Plaza, New York, N.Y. 10121-2298
WEB SITE: www.architecturalrecord.com
SUBSCRIBER SERVICE: 888/867-6395 (U.S. only). 609/426-7046 (outside the U.S.). Subscriber fax: 609/426-7087.
E-mail: *p64ords@mcgraw-hill.com*
INQUIRIES AND SUBMISSIONS: Letters, R. Ivy, *rivy@mcgraw-hill.com*; Lighting, C. Linn, *linnc@mcgraw-hill.com*; Books, C. Pearson, *pearsonc@mcgraw-hill.com*; Technology, W. Talarico, *wendy_talarico@mcgraw-hill.com*; Record Houses and Interiors, S. Amelar, *sarah_amelar@mcgraw-hill.com;* Practice, E. Kubany, *elizabeth_kubany@mcgraw-hill.com*; Products, R. Catinella, *rita_catinella@ mcgraw-hill.com*

SUBSCRIPTION: Rates are as follows: U.S. and Possessions $59; Canada and Mexico $79 (payment in U.S. currency, GST included); outside North America $199 (air freight delivery). Single copy price $8; for foreign $10. Subscriber Services: 888/867-6395(U.S. only); 609/426-7046 (outside the U.S.); fax: 609/426-7087.
SUBMISSIONS: Every effort will be made to return material submitted for possible publication (if accompanied by stamped, self-addressed envelope), but the editors and the corporation will not be responsible for loss or damage.
SUBSCRIPTION LIST USAGE: Advertisers may use our list to mail information to readers. To be excluded from such mailings, send a request to ARCHITECTURAL RECORD, Mailing List Manager, P.O. Box 555, Hightstown, N.J. 08520.
OFFICERS OF THE MCGRAW-HILL COMPANIES: *Chairman, President and Chief Executive Officer:* Harold McGraw III. *Executive Vice President and Chief Financial Officer:* Robert J. Bahash. *Executive Vice President, Organizational Effectiveness:* Barbara B. Maddock. *Executive Vice President, Global Markets:* John D. Negroponte. *Senior Vice President and General Counsel:* Kenneth M. Vittor. *Senior Vice President, Corporate Affairs, and Assistant to the President and CEO:* Glenn S. Goldberg. *Principal Operating Executives:* Leo C. O'Neal, *President, Standard & Poors;* Vasant Prabhu, *President, Information and Media Services;* Robert E. Evanson, *President, Educational and Professional Publishing Group.*
MCGRAW-HILL CONSTRUCTION INFORMATION GROUP: Norbert W. Young, Jr., FAIA, *President*
COPYRIGHT AND REPRINTING: Title ® reg. in U.S. Patent Office. Copyright © 2000 by The McGraw-Hill Companies. All rights reserved. Where necessary, permission is granted by the copyright owner for libraries and others registered with the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, Mass. 01923. To photocopy any article herein for personal or internal reference use only for the base fee of $1.80 per copy of the article plus ten cents per page, send payment to CCC, ISSN 0003-858X. Copying for other than personal use or internal reference is prohibited without prior written permission. Write or fax requests (no telephone requests) to Copyright Permission Desk, ARCHITECTURAL RECORD, Two Penn Plaza, New York, N.Y. 10121-2298; fax 212/904-4256. For reprints call 609/426-5129 or fax 609/426-7087. Information has been obtained by The McGraw-Hill Companies from sources believed to be reliable. However, because the possibility of human or mechanical error by our sources, The McGraw-Hill Companies or ARCHITECTURAL RECORD does not guarantee the accuracy, adequacy, or completeness of any information and is not responsible for any errors or omissions therein or for the results to be obtained from the use of such information of for any damages resulting therefrom.

PRINTED IN USA

Architectural Record
McGraw-Hill Construction Information Group
A Division of The **McGraw-Hill** *Companies*

ABC MPA

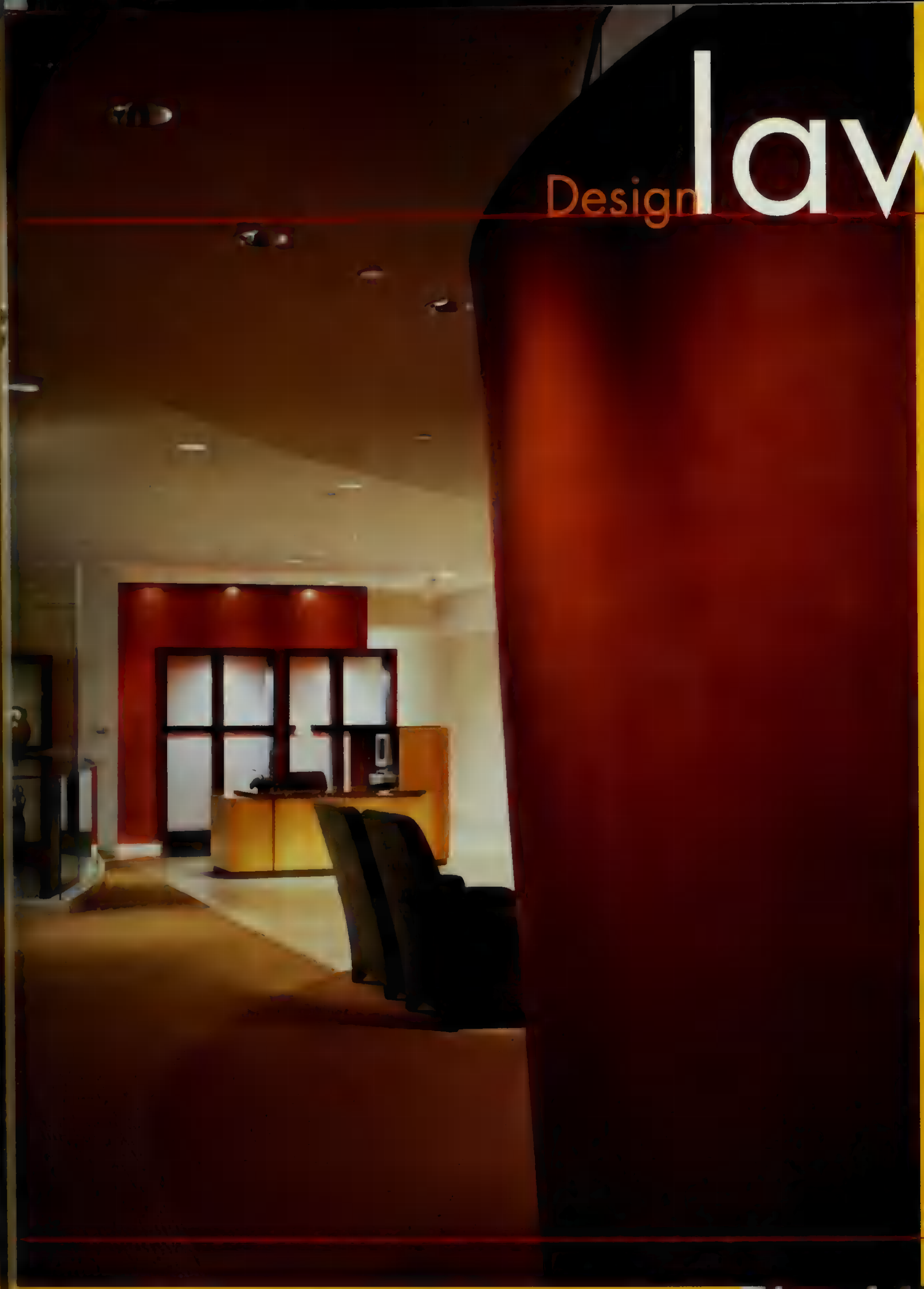
THE AMERICAN INSTITUTE OF ARCHITECTS 2000 BOARD OF DIRECTORS • OFFICERS: *President:* Ronald L. Skaggs, FAIA; *First Vice President:* John D. Anderson, FAIA; *Vice Presidents:* Helene Combs Dreiling, AIA, Gordon H. Chong, FAIA, J. Richard Kremer, AIA; *Secretary:* David S. Collins, FAIA; *Treasurer:* Harry Rutledge, AIA, RIBA ▪ **REGIONAL DIRECTORS:** Roy Abernathy, Assoc. AIA, Jerry Abramson, Harold L. Adams, FAIA, RIBA, JIA, John Reid Benson, AIA, Bruce E. Blackmer, AIA, Derek Bradford, AIA, Timothy G. Cahill, AIA, Stephan Castellanos, AIA, Lugean L. Chilcote, FAIA, Donald M. Comstock, AIA, John F. Corkill Jr., AIA, Ben R. Darmer, FAIA, Richard Farson, PhD, Thomas G. Fernandez, AIA, Richard L. Ford Jr., AIA, John P. Franzen, AIA, James Gatsch, AIA, Holly K. Gerberding, AIA, Eugene Hopkins, FAIA, Edward Kodet Jr., FAIA, Lawrence R. Livergood, AIA, Kenneth Maynard, FAIA, David Messersmith, FAIA, Barbara A. Nadel, AIA, Robert L. Newsom III, FAIA, Thompson E. Penney, FAIA, Michael L. Prifti, AIA, Angel C. Saqui, FAIA, Larry M. Schneider, AIA, Katherine L. Schwennsen, AIA, Wayne D. Silberschlag, AIA, Bill D. Smith, FAIA, Marvin J. Sparn, FAIA, Douglas L. Steidl, AIA, Ward Whitwam, AIA, David L. Wooley, AIA, Steven Winkel, FAIA; *CACE Representative:* Timothy D. Kent, CAE; *AIAS Representative:* Melissa Mileff ▪ **AIA EXECUTIVE MANAGEMENT COMMITTEE:** Norman L. Koonce, FAIA, *Executive Vice President/CEO;* Fred DeLuca, Hon. AIA,*CFO;* Jim Dinegar, *COO;* Lisa Blackwell, *Managing Director, AIA Advocacy;* Michael Copp, *Managing Director, AIA Professional Practice;* Dale R. Ellickson, FAIA, *Managing Director, AIA Contract Documents;* John Gaillard, *Managing Director, AIA Meetings and Events;* Chuck Hamlin, *Managing Director, AIA Outreach;* Ken [illegible], *Managing Director, AIA Technology;* Tom Stolle, *Managing Director, AIA Finance and Administration;* Kenna Wood, *Managing Director, AIA Marketing and Research;* Gina Yegerlehner, *Acting Managing Director, AIA Human Resources*

Doc
Award
Winner

FOR THE BEST DESIGNERS,
THE MARK OF EXCELLENCE IS
THE DOC. FOR CARPET, IT'S
ULTRON® VIP.

DESIGN TEAM *Janet Farrell, AIA; Rob Boell, AIA; Christopher Murray, AIA; Ken Baker; Bert Oliva; Agnes Koo*
PROJECT *Sidley & Austin, Dallas, TX*
CARPET FIBER *Ultron® VIP Nylon 6,6*

WINNING DESIGN FIRM
Gensler, Washington, D.C.



Design laws

For the new Dallas office of a Chicago-based law firm, Gensler plays up the Texan feel of wide, open spaces in this expansive, two-story design. A new, curved wall in terra cotta plaster ties the space into a cohesive whole. Echoing curves in the wall and the ceiling, solid caramel carpet and a coordinating pindot pattern with Ultron® VIP nylon enhance limestone, mahagany and brushed bronze details.

The best designs use
the fiber of choice: Ultron® VIP nylon 6.6

Enter the 2000 Doc Awards! Let us tell you more: 800-543-5377, 770-951-7600 or www.ultronvip.com.

SOLUTIA™

CIRCLE 16 ON INQUIRY CARD

[FIRE STATION]

WWW.FIREGLASS.COM

Your source
for fire-rated
glass and
framing

CIRCLE 12 ON INQUIRY CARD

1.888.397.FIRE
(3473)

PRODUCT COMPARISONS ARTICLES LINKS

TGP Technical Glass Products
ONE SOURCE. MANY SOLUTIONS

Shelter is easy. Exhilaration is not.

This is your calling. To create an intriguing space. At your mercy are long-lasting windows that go far beyond wood and glas

Weather Shield
Windows & Doors

CIRCLE 15 ON INQUIRY CARD

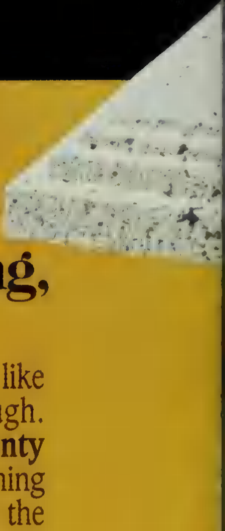
to your specs to create a refuge that livens things up. Call 1-800-477-6808 x2338 or visit us at weathershield.com See the light.™

©2000 Weather Shield Mfg., Inc

One more way to
build on our knowledge

No Nicks, No Scratches

Ultra 90+™



The only ceiling with a warranty against nicks, scratches, chipping, flaking, punctures and indentations.

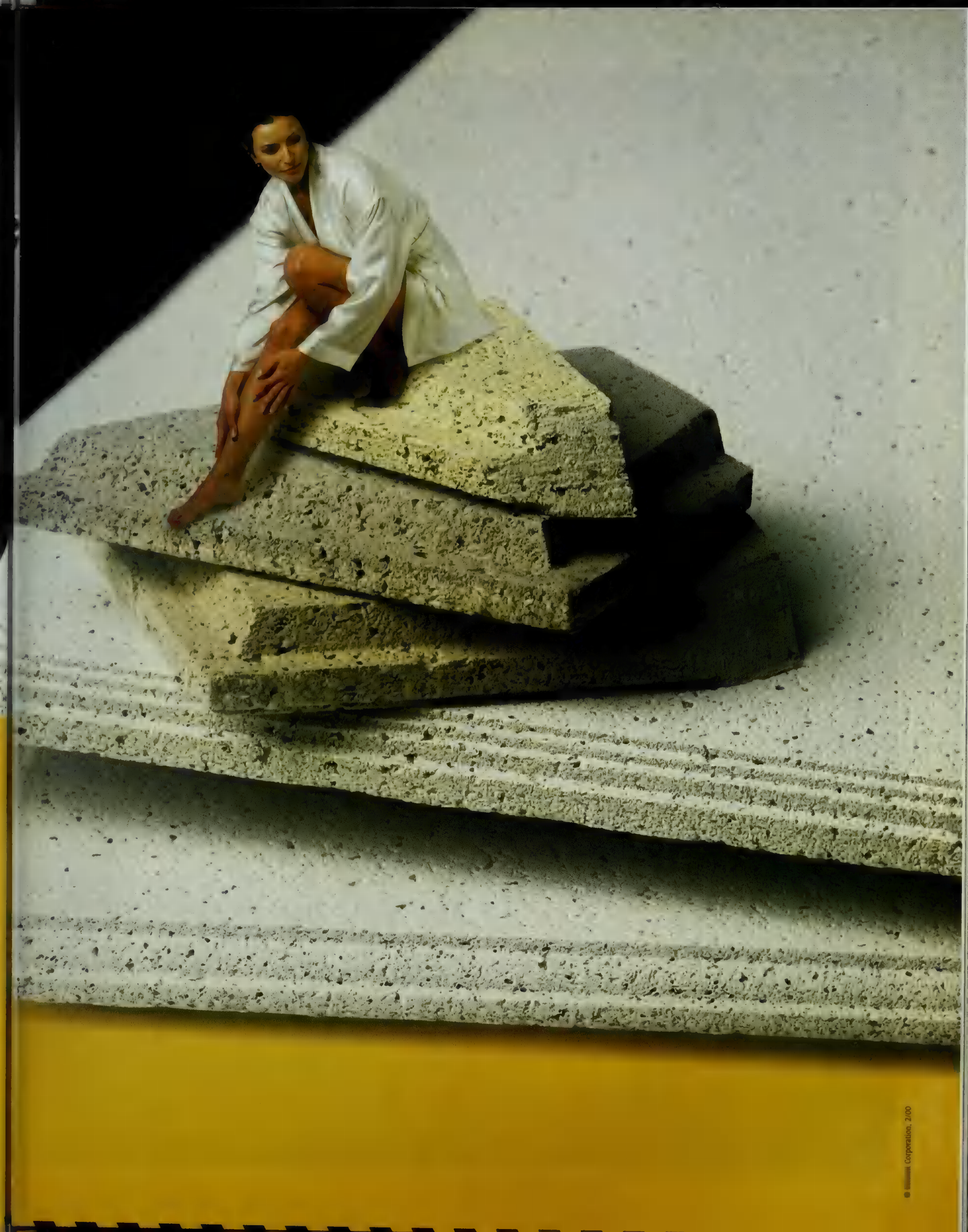
There's only one way to produce ceiling panels offering the benefits of **Ultra 90+.** You pour them into a mold and cure them slowly. What comes out is a casting... **smooth,** yet too strong to crack, scratch, puncture, chip, flake, or sag even to **90% RH and 104°F.** Look to **Ultra 90+** for Ultra-high light reflectance, a variety of **smart edge details,** and **9 designer colors** that aren't just painted on, but, like stone, the colors go clear through. Enough to deserve a **10-year warranty** for long-lasting beauty. There's nothing out there comparing to Ultra 90+ with the **UltraGuard™ finish.** To learn more, visit our learning center, Celotex Tech, at www.celotex.com, or call 1-800-CELOTEX. "We're the Company You Can Talk To."

Celotex

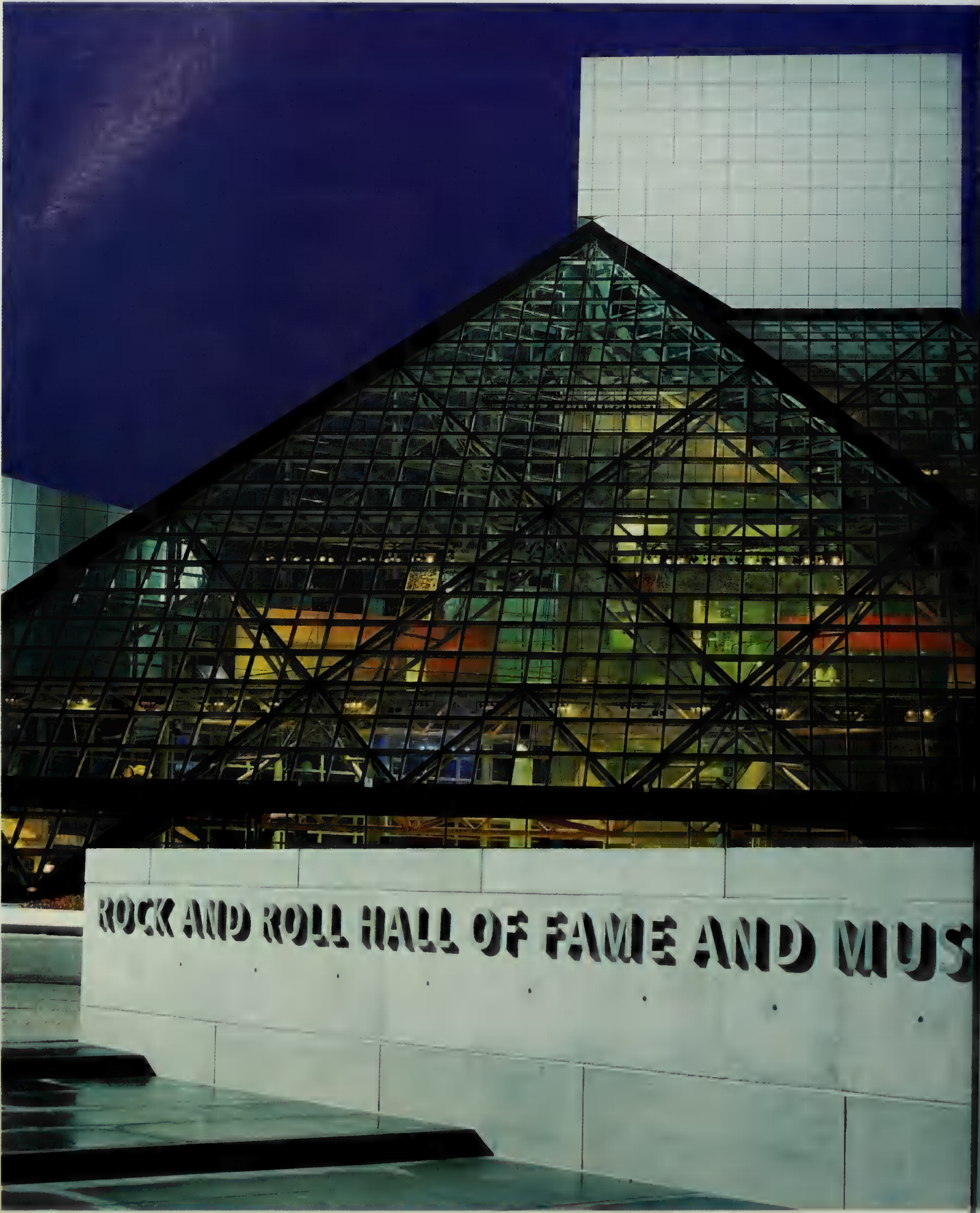
Build On Our Knowledge™

CEILING TILES / SHINGLES / GYPSUM BOARD / RIGID FOAM INSULATION

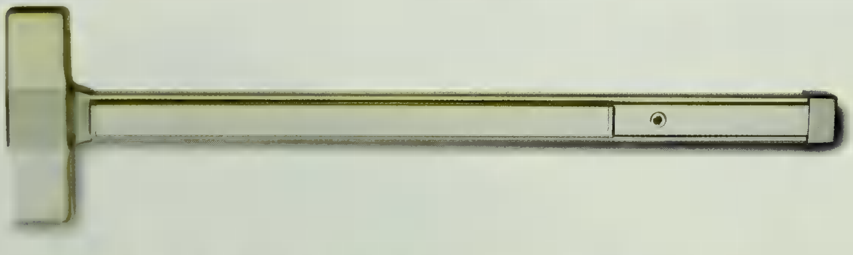
CIRCLE 4 ON INQUIRY CARD



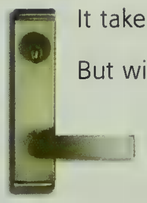
© [illegible] Corporation, 2/00


ROCK AND ROLL HALL OF FAME AND MUS

We never set a guitar on fire,
trashed a hotel room or
made the cover of Rolling Stone.



But we sure make a rousing exit.



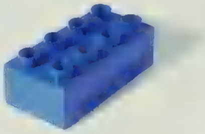
It takes years of dedication to get into the Rock and Roll Hall of Fame and Museum. But with Monarch exit devices, it only takes seconds to get out. Our complete line of products comes in a variety of finishes that will complement, not compromise, your design. Best of all, most of our products are delivered in as little as two to three days—keeping your project on budget and on time. So remember Monarch when you need hardware right. Now.

MONARCH
Exit Devices & Door Hardware

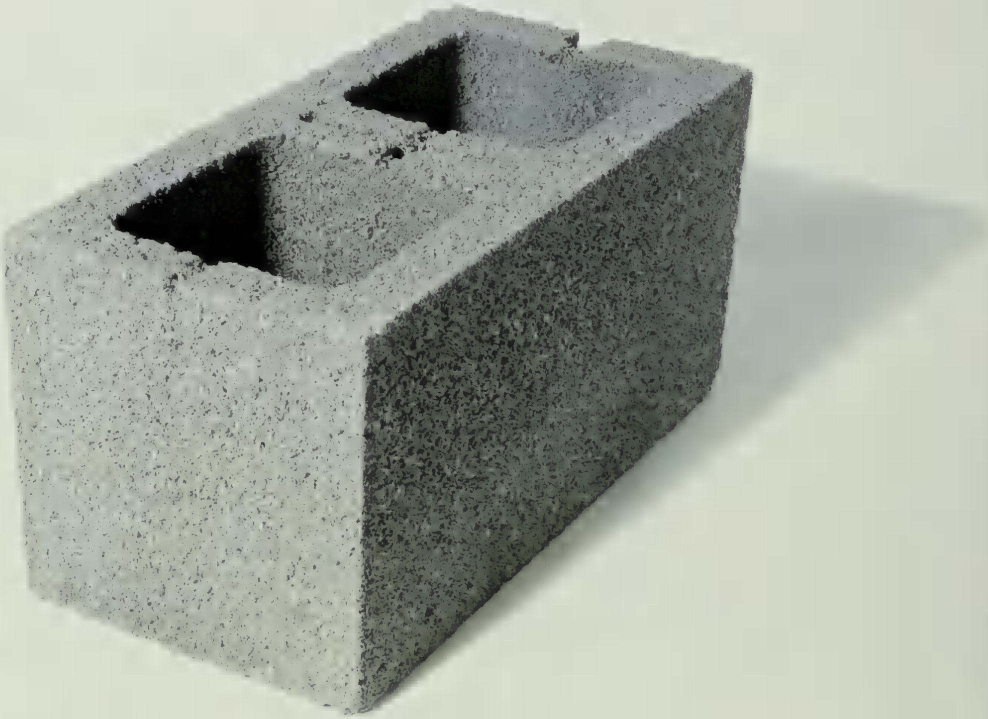
For more details about the complete line of Monarch exit devices and door hardware, as well as other cost-effective solutions from our IR partners Falcon, Dor-O-Matic and IVES, call us at 800-826-5792 or visit www.monarchhardware.com.

IR Security & Safety

CIRCLE 8 ON INQUIRY CARD



.com on

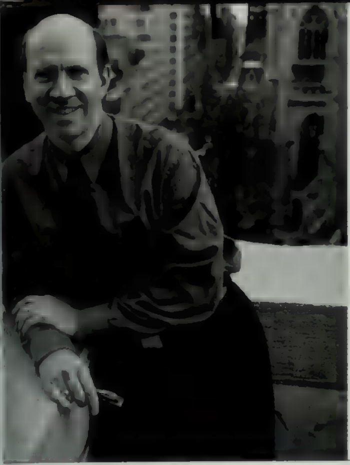


Viecon.com

Introducing the only Internet solution with the power to declare victory for the $4.1 Trillion E/C/O economy. Shout it from the rooftops. V-day has arrived. Victory over every major construction project. For every design/build firm. Every owner/operator. Viecon-powered networks are revolutionizing creation, collaboration and commerce. Driving out massive inefficiencies in the Engineering, Construction and Operations of your long-term assets. The dot.coms are powerless. With Viecon, victory is yours.

viecon.com
by Bentley

CIRCLE 22 ON INQUIRY CARD



Dot.com mania

Editorial

By Robert Ivy, FAIA

Nothing outside the bland, glazed building in South San Francisco gave a hint about the power inside. There, huddled in a beige conference room, two young dot.com developers—one an architect, the other an engineer—seemed so eager to tell their collective story that they finished each other's sentences. Recent transfers from the building design professions, they had packed it in a year ago and headed for the Silicon Valley gold rush. Their excitement mounted as they described how a Web application developed in their garage could radically improve the way people practice architecture. I believed them.

What were they working on? And what is happening to San Jose, epicenter of the dot.com fault line, where land values are skyrocketing and hotels remain 100 percent occupied all year round? To find the answers to these questions, jump into "Editor's Journal: From the Field," a new offering on our Web site that takes you where we travel, visiting architects, clients, and dot.com moguls. Like the Web, it's loose, unfussy, and updated frequently.

Although this magazine has focused on the ways that the information revolution is changing architectural design, our Web site recognizes another transformation: the way we receive information. Unlike most print publications, the Web encourages random scanning (versus longer, serially organized reading), takes a more conversational tone, and reminds you that it's subject to change. This new attitude, derived from technology, has profound implications for other media, including ARCHITECTURAL RECORD.

The Editor's Journal is symptomatic of larger change in our overall publication. Although we're centered in New York's Silicon Alley, not Valley, we have been plotting our own digital leap forward toward a more seamlessly connected magazine and Web site. Architecturalrecord.com, our Web site, morphs into a new, friendlier format by July 1, with a new look and new offerings, such as updated architectural news online. The product of months of collaboration with consultant Roger Shepherd and others, the site loads more quickly, sports more dynamic graphics, and is poised for further change.

Already, RECORD's site takes you further and deeper, allowing you to probe for more information about the printed stories. Want to know the name of the acoustical consultant on Frank Gehry's latest project? Check out the Web site under Projects. Wonder if Ricardo Legorreta said more than we printed? Look for his unabridged interview on the site, which we could never have shown in its entirety. Interested in who manufactured the roof on a school depicted in this issue? It's probably available for the asking on the site. We retain and improve our popular features, including Green Architect, Continuing Education, Digital Architect, and Record Houses.

In the near future, you'll be able to flip from one to the other—from printed page to pixels, you are invited to seek out additional details and drawings in a seamless offering. The printed magazine will change as well. First, nothing will replace the rich graphic presentation of architecture that you count on from month to month. However, we will break out different types of information within each story, allowing you to scan the pages more easily, deciding what makes sense to spend time on. We'll allow thoughtful, important stories, such as this month's "State of the Profession," to take as much room as they require. But we've already shortened the text of some stories, formatting the material in a quicker, more easily accessible way.

We're changing because you're changing. An earthquake has already struck this new information age, as real as the San Andreas Fault and deeper than CAD. It affects the way we all receive information, and ARCHITECTURAL RECORD will be part of the revolution. Aftershocks are coming: Fire up the hard drive and plug in the modem to be ready.

To view our improved site, visit architecturalrecord.com. An alternate route is through the new portal, construction.com, sponsored by McGraw-Hill's Construction Information Group.

Robert Ivy

[illegible] All rights reserved. JELD-WEN and Nord are registered trademarks of JELD-WEN, inc., Klamath Falls, OR.

AME RING TO IT.

The beauty of a Nord® wood door tells your clients you don't compromise. No imitations. No shortcuts. You opted for the natural warmth, design flexibility and authentic beauty of wood. Nord offers a stunning selection of entry and interior doors finely crafted from oak, Douglas fir or Western hemlock. One of these designs can ring true for your plans. Request a free, full-color catalog by calling 800-877-9482, ext.ND26

Nord®
DOORS

Part of the JELD-WEN® family
www.doors-windows.com
CIRCLE 9 ON INQUIRY CARD

Courtney Sloane
President & Creative Director
Alternative Design

ere's a

ing of the

d. The voice of the new mainstream is diverse.
We have to catch it, tap into it,
and show what time it is.

Court

DUPONT

Antron®. Innovate.

CIRCLE 5 ON INQUIRY CARD

Learn more about Courtney Sloane and DuPont Antron® nylon carpet fiber at www.dupontcommercial.com

Antron® is a DuPont registered trademark for its brand of nylon carpet fiber. Only DuPont makes Antron®. © 2000 DuPont

Letters

Can't see the forest

The March edition of ARCHITECTURAL RECORD [page 76] contained a description of Park Forest, Illinois: "Flat on its back and won't come back under today's circumstances," in the words of Minnesota State Representative Myron Orfield. But, to paraphrase Samuel Clemens, "The news concerning our death is greatly exaggerated."

The village now owns the dead local mall and is converting it into a traditional downtown. We have demolished over 300,000 square feet of useless and vacant retail space and punched roads through the site. A 90-unit apartment house and 60-unit assisted-living facility are under construction on a former parking lot. On another lot, a 65-unit, single-family neotraditional development is being built. Perhaps most impressive is the fact that private investment here totals more than $38 million. A new Walgreens and an OSCO Foods have opened, while another building has become a cultural arts center that houses an equity theater company, a juried art gallery, an art school, offices, and boardrooms.

Village Hall has moved into the center of downtown, where the new Village Green hosts a tree-lighting, an art fair, and other events. We have won the Illinois Chapter of the American Planning Association's planning award as well as numerous other honors, including the Burnham Award for excellence in planning. Maybe Representative Orfield has a program to sell. But I don't expect his exaggerations to come at the expense of both fairness and honesty.

—Janet R. Muchnik
Village manager, Park Forest, Ill.

The digital divide

I disagree with the premise put forward by B.J. Novitski in April's Digital Architect [page 173]. She suggests architects need not worry about the "few constraints imposed by the equipment" involved in today's rapidly evolving electronic control possibilities. She thinks that designing a house full of automated devices is not much different than designing a house that isn't "wired."

I disagree completely. The next generation of houses will be different, just as creatures with complex nervous systems are different from plantlife. The revolution in architecture offered by embedded control and communication technologies will change architecture radically, as the same technologies have already changed industrial design—in terms of what is designed, how it functions socially, and how it meets the demands of the marketplace.

Rather than continuing to celebrate an approach to architecture that was stabilized 10 years ago, ARCHITECTURAL RECORD should be watching for designers who accept and meet this new challenge, which has a formal aspect, to be sure.

—Anders Nereim
Via E-mail

Curb appeal

The April issue looked great. I found the Kalach house, in Mexico City [page 112], to be particularly impressive. Great job on an inspiring article.

—Anne Fougeron
San Francisco

Your selections for RECORD HOUSES 2000 make a most unfortunate statement about RECORD. I should not have to detail all of the problems created by urban sprawl. But when the magazine publishes only houses in idyllic and pastoral exurban settings [RECORD HOUSES, April 2000, page 93], it reinforces the dream of a "house in the country" and all the problems that go with it.

Impossible transportation systems, pollution created by commuters, the loss of community identity, and the resegregation of the cities—both racial and economic—have all resulted from the abandonment of the city by those who could afford to leave.

Urban housing is desirable and can provide a much richer quality of life. I suggest two separate categories of RECORD HOUSE projects. One would be for architects who do not wish to solve the complex problems of living in an urban center, and the other would include those who prefer to demonstrate creative solutions to the problems of context, scale, density, and security that accompany urban housing.

—Robert N. Kennedy, FAIA
Indianapolis

The houses are all brilliant! My only reservation is that they don't cover the entire design spectrum. Each does display crisp geometries with tightly controlled angles and curves. But none are Dionysian. There are no gables or shingles, no garden-variety window sashes, no apparent environmental strategies. As these houses show, architects have greatly refined New Modernism. But is the movement becoming so orthodox that invites yet another round of rebellion?

The City issue [March 2000] was also, I thought, particularly good. It covered the theme very well—with pertinent, juicy stuff—and it didn't get tedious trying to be comprehensive. The London Underground stations [page 129] were excellent, and I appreciated the treatment in RECORD. Okay, the SOM piece, on page 68, could have been a bit more skeptical. They've got a way to go to reach their previous position and may be celebrating victory prematurely. But it, too, was a good subject.

—John Dixon, FAIA
former editor,
Progressive Architecture
Greenwich, Conn.

War child

I was very pleased to read about Kosovo in the January 2000 issue of RECORD. Of course, the photo essay on page 74 presented a very moving portrayal of the devastation. And I'm sure the "Kosovo housing ideas competition" [page 169] has created usable architectural solutions to the problem of desperately needed housing. I'm interested in finding ways to implement some of these creative ideas as well as talking with others who may already be working at turning them into reality. Can you help me to connect with the people involved?

—Bill Powell, AIA
Brookline, Mass.

RECORD *responds: On the Web, the worldwide charity that benefited from the competition for emergency housing can be contacted at www.warchild.com.*

Pure Manila extract

The Editorial in your April 2000 issue [page 17] gives an excellent overview of the conditions in Manila, which my wife and I visited in late 1997. It was the first time either of us had seen the city in over 50 years. I made a brief visit in 1945, just weeks after the end of World War II. My wife, Katie, a native of Manila, left in 1941. She has lived in the United States since the age of 15.

Katie remembered a gracious, verdant and cosmopolitan city with clean air and broad, tree-lined boulevards. She was devastated by what we saw in 1997. Manila today is a city of banal high-rises, dreadful slums, paralyzing traffic, choking smog, and an almost total absence of greenery.

The city I saw in 1945 was nearly leveled by the war. Almost every possible mistake was made in the rebuilding of Manila. What a tragedy that the Marcos' millions were spent on monuments rather than on a coherent plan for recon-

POI

point of inspiration

flirt

Don't be shy. Make a splash. With clients, with space, with life. Introducing the Lago Collection from Mohawk Commercial Carpet. Three enchantingly beautiful multituft loop patterns inspired by the gentle waves, organic patterns and graceful subtlety of the delightful lakes of Italy. Each sophisticated. Each unique.

Each made of Antron Lumena® solution-dyed nylon, with its unique combination of hollow filament shape and DuPont polymer, which provides superior stain resistance and performance over time.

Learn more about the latest innovations in carpet made of Antron® at *what's new* at www.dupontcommercial.com. So, see you next month. Arrivederci, fishface. Bye-bye.

MOHAWK
COMMERCIAL CARPET

DUPONT
Antron
Only by DuPont

CIRCLE 6 ON INQUIRY CARD

struction and controlled growth. Now one wonders if reclamation is possible—given endemic corruption and the high ratio of poor to rich.

A massive program of remediation is needed to arrest Manila's downward spiral. The warm, industrious, and talented people of the Philippines deserve the chance.
—Bryant Putnam Gould,
AIA Emeritus
Freehold, N.J.

I appreciated and concurred with the thoughts expressed in your April 2000 editorial on Manila. The brief mention of both contrasts and promise there is timely. Currently under way are efforts to link in-country project needs with U.S. resources—including capital investors and AEC providers.

Last November, I attended a trade and investment mission in the Philippines sponsored by the insurer CNA/Schinnerer, in cooperation with U.S. Commerce, the U.S.-Asia Environmental Partnership, McGraw-Hill, and the American Chamber of Commerce of the Philippines. The meetings involved a wide spectrum of professional disciplines brought together to explore potential business development relationships in the global marketplace. Needless to say, ideas were introduced that would have an impact on the future of our industry. Moreover, the associations resulting from such a rich mixture of businesses suggest that adaptations around and within our profession are in the offing too.

Surely many more firm collaborations will emerge in the near future. The exploration of strategic alliances—with special emphasis on small firms—has been a consistent concept promoted and carried through by the U.S. Commerce Department and CNA/Schinnerer. I would like to encourage the AIA to take an active and supportive role in these same efforts. For more information on CNA/Schinnerer's AEC international business development activities, please contact Peter Gourlay, Vice President, International Business (301) 907-3038 or Peter.Gourlay@CNA.com.
—John Tomassi, FAIA
Via E-mail

Money money money

I read with interest April's "Practice Matters" [page 61], because it dealt with the collection of receivables—a problem that causes great stress in our company. Imagine, if you will, being one step further removed from the source of payments. We are food-service consultants, and it often becomes clear to us that the architects who commission us to work on their projects are not doing the things the authors have recommended in the article. Unfortunately, what goes unsaid is that if architects are not practicing fiscal discipline, the late payments they receive for work (including ours) go first to pay their own staff and payables. If there is money left, they pay sub-consultants.

I fervently pray all architects not only read this article but practice the common-sense advice outlined in it.
—John C. Cini
Rockville, Md.

Strategic alliance

The February 2000 issue of RECORD reminded me of another story connected with the Fisher Science Center at Simon's Rock College of Bard, in Great Barrington, Mass. [page 88].

There, the collaborative relationship between the associated architects, Bohlin Cywinski Jackson, and Architecture+ resulted in a magnificent project. In my opinion, it's a unique example of how and why a strategic alliance worked to its full potential.

My personal knowledge of this collaboration spans many years. Peter Bohlin and I were friends and classmates in the late 1950s, so it doesn't surprise me that he has produced such wonderful architecture. Subsequently, Frank Pitts (a founding principal of Architecture+) was one

digital wide form

The wide body with the wide range of features. The Ricoh FW7030D. Multiple copies at a fast speed of 15.7 fpm. It features R/E from 25 to 4
up to 400 dpi, 32-level grayscale, positive-negative reverse, mirror image and much more. A controller software option provides full network connec

© 1999 Ricoh Corporation.

of my star students. Architecture+ is now a client of my management consulting practice.

The success of Simon's Rock is due to many factors underlying the collaboration of the two firms. In fact, the firms have formed what is better described as a "strategic alliance" for pursuing other important design opportunities. It's not a marriage of convenience. Rather, like any effective strategic alliance, it is a carefully thought-out relationship that is complementary, creative, and rewarding.

—Richard G. Jacques
Collinsville, Conn.

Community connection

I was pleased to see May's Practice Matters [page 75] by Andy Pressman, AIA. Absolutely right on. Architects can make a difference in their communities with regard to design, whatever the types and styles of designs that the community expects and embraces. Realize that planners, planning commissions and town councils create ordinances that define architecture or design as they envision it to be. Architects need to make sure they give input into the creation of the boundaries within which they are to design. Take the time to teach design within your community. It is appreciated.

—Tom Connolly
President, TC3 Architects, P.C.
Frisco Town Council Member
Frisco, Colo.

Late but still valid

I want to congratulate you on your evenhanded reporting and editorial presentation in the June 1999 issue of your magazine. If you were wondering why I'm writing almost a year later, would you believe information overload?

Kathie Snodgrass, in the first line of Pulse [June 1999, page 28], made the broad generalization I've heard way too often: "The vast majority of American houses aren't designed by architects." I am sick and tired of hearing that remark from architects unwilling to dive into the subdivision fray and try to make a difference. The truth is, many great architects do design housing and they are not the cliché, "ticky-tacky subdivisions" Ms. Snodgrass refers to. Raul Pynchon focused on the three-car garage. Why not have three garages? We all have three or more cars. T.P. Jones pulled out the Brady Bunch shtick. I would challenge all of these "critics" to get involved and attempt to design communities that are better. They may learn a thing or two about people and market forces, and then again maybe they'll actually do something better we can all learn from.

—Michael Kephart, AIA
Via E-mail

Corrections

Eva Jiricina Architects should have received credit for the bus station and its connecting canopy at the Canada Water on the Jubilee Extension [March, page 136]. Carrier Johnson and Gunnar Birkerts are collaborating on the design of the San Jose Joint Library [February, page 46]. The firms of Weintraub and di Domenico and di Domenico+Partners should have been credited with an early role as architects of record for Gantry Plaza State Park [March, page 106]. (As construction began, Sowinski Sullivan Architects became the architect. Thomas Balsley Associates was the firm associated with the architect of record through all phases of the project.) The same elevation for the Palace Annex in Santa Fe, N.M., envisioned by Conron & Woods Architects, was mistakenly shown three times on page 32 of the April issue.

Letters may be E-mailed by clicking ***Letters*** *on our Web site at* ***www.architecturalrecord.com****, or send letters directly to* ***rivy@mcgraw-hill.com****.* RECORD *may edit letters for grammar, style, and length.*

from a digital leader

us an optional memory unit offers "scan once print many" and electronic collation – improving productivity. The huge gap between Ricoh and the competition in digital copiers is clearly getting wider. And wider. Call 1 800 63 RICOH or visit us at www.ricoh-usa.com

We're in your corner.

RICOH®
Image Communication

CIRCLE 84 ON INQUIRY CARD

Washington Hall, center stage for theatre and cultural events at Notre Da
Built in 1881, this modern Gothic structure was named by Father Sorin
himself, Notre Dame's founder, in honor of his great hero, George Washingt

You've got to be good to go into Notre Dame and leave with a victory.

When the University of Notre Dame decided to replace the windows in two of the more historic buildings on its storied campus, all the major manufacturers wanted the job. But as they learned more about the size and scope of the project, the list began to dwindle. Since both buildings are on the National Register of Historic Places, Notre Dame wanted windows with wood interiors that matched the appearance and profile of the originals. To minimize maintenance, another demand was aluminum clad exteriors. Marvin Windows and Doors emerged victorious. And designed and built 310 windows for the project, not one of which was a standard size. Not only that, but the casings were factory applied and a custom color for the exterior cladding was developed to replicate the 100 year-old originals. If you have a challenging commercial project, contact the company that has a reputation for winning the tough ones.

The wood interiors of Marvin's windows are virtually identical to those installed a century ago. For the exterior aluminum cladding, an appropriately-named custom color was created: Irish Bronze.

MARVIN
Windows and Doors
Made for you.

For a free catalog, call 1-800-236-9690. In Canada, 1-800-263-6161. www.marvin.com

1200006A

CIRCLE 7 ON INQUIRY CARD

All rights reserved. Bidcom and the Bidcom logo are trademarks of Bidcom, Inc.

"Beautiful buildings are...
works of art using the best technology."

Frank Lloyd Wright

Bidcom™

Build Better.

Bidcom, Inc. helps companies manage risk, drive down costs and complete building projects on time. Bidcom's services—delivered through the Bidcom e-Marketplace—allow building industry professionals to communicate, collaborate, manage business processes, conduct bidding and procurement, and access valuable industry information. Bidcom's easy-to-use services support owners, real estate developers, architects and design professionals, general contractors, subcontractors, suppliers, and facilities managers throughout the lifecycle of multiple building projects.

SAAB SCANIA
SAA

Saab vs. Saab

The Saab Viggen supersonic fighter. The new Saab 9-3 Viggen Coupe. In both, human-centered design places controls and instruments where they are intuitively accessible. Reaction times are shortened. Whether engaging the turbocharger or the afterburner, car and driver, like pilot and plane, perform as one.

www.saabusa.com
1 800 SAAB USA

Saab automobiles and Saab aircraft are now manufactured by
separate unrelated corporate entities. ©2000 SAAB CARS USA

CIRCLE 63 ON INQUIRY CARD

Record News

Bulletin Brooklyn Bridge park p. 32
Green solutions for waste water p. 34
Paul Rudolph's home to be occupied p. 38
Zaha Hadid designs ski jump p. 46

PHILADELPHIA HOSTS THE LARGEST AIA CONVENTION EVER

Andrew Young spoke (top), and crowds flocked to the Expo (bottom).

A record-breaking 19,000 architects, spouses, Expo presenters, and walk-ins descended on Philadelphia for the AIA's annual convention, Wednesday, May 3, through Saturday, May 6.

Philadelphia offers comfortably scaled buildings with a distinctive urban character and history, with a slew of new influences pouring back in. Construction cranes downtown attest to the dozen new projects under way there.

Because the theme of the convention was "Livable Communities for America's Future," attendees reported being pleasantly surprised by the charms of walking unimpeded through an intact, still-walkable downtown. Visitors also praised the Convention Center itself—its materials and integration into the city. It's a good thing they liked the building, because many of them spent three days inside, attending lectures on such topics as designing "Livable Communities" and "What Good is a Green Building in a Sick Neighborhood?" The Expo floor bustled with activity as convention-goers checked out the latest products and services offered by more than 650 exhibitors. Aiming to provide a launching site for cutting edge products in the industry, the Expo featured an array of technologically innovative products.

Topping the agenda was the Secretary of Education Richard Riley, who marked the 25th anniversary of the founding of the U.S. Department of Education with a discussion of school modernization issues. "Super panels" of mayors and noted urban thinkers, as well as keynote speakers Andrew Young (former Atlanta mayor and United Nations ambassador) and renowned architects Zaha Hadid, HON. AIA, and Michael Graves, FAIA, addressed the convention theme. AIA Gold Medal winner Ricardo Legorreta, HON. FAIA, expressed his views on architecture, speaking of the elements that make architecture resonate: scale, peace, sense of humor, light, texture, and, of course, color.

At Zaha Hadid's performance before the general convocation, an overflow crowd included architects seated on the floor, campfire-style. While her spoken word was baffling, the renderings and photos of her work showed plenty. Gold Medal winner Ricardo Legorreta, HON. FAIA, smiled as he said, "We Mexicans are irresponsible in the use of color," and flipped through a slide presentation of his work.

Participants in Saturday's super panel called "Architects and the Sprawl Debate" carried the discussion far beyond the usual hand-wringing over loss of open space. Michael Gallis, an architect in Charlotte, N. C., argued that architects need to understand the implications of reorganizing so-called global trade, which uses cities as nodes for moving people, goods, and ideas. Tom Fisher, ASSOC. AIA, Dean of Architecture at the University of Minnesota, advocated the ecologically driven urbanism of William Morrish, who heads the Design Center for American Urban Landscape of Minneapolis. Robert Bruegmann, professor at the University of Illinois, Chicago, and author of the forthcoming book on suburban development took a sanguine view of today's urban-growth patterns, arguing that they reflect deeply held values. Most of today's anti-sprawl solutions, he argued, would prove worse than the problems.
Jane F. Kolleeny

FIVE ELECTED AS AIA OFFICERS FOR 2000

After meeting the candidates for elected AIA office, first in speeches and later through question-and-answer periods during regional caucuses, delegates selected the following: Gordon H. Chong, FAIA, will be the AIA's first vice president/president-elect in 2001 and will serve in 2002 as Institute president. An Institute fellow since 1994, Chong currently serves on the Advisory Board of the Center for Cooperative Construction Training and Exchange between China and the U.S. Three vice presidents were elected: Terrance Brown, FAIA; Barbara A. Nadel, FAIA; and Douglas L. Steidl, FAIA. Stephan Castellanos, FAIA, was elected secretary of AIA for 2001.
J.F.K.

LEGACY PROJECT INAUGURATED AT PHILADELPHIA AIA CONVENTION **Featured as a convention centerpiece, the Architecture and Design Charter High School in Philadelphia recently opened as the first architecture high school in the nation. This project is the outgrowth of a collaboration among the AIA, 17 local architectural firms, and a group of area educators. Located in the city center, the school provides a more intimate and accessible learning environment than is typically available to students in urban settings. Parental involvement in curriculum planning, a required student volunteer commitment, and a creative program of independent studies in the workplace augment the program.**

Sol LeWitt donated the design of a commemorative wall drawing for the school's entrance foyer, which was dedicated during the convention. His original work is to be painted by students and faculty with open-ended instructions that inspired plenty of discussion. Barbara Chandler Allen, a school board member, says the drawing provided just the kind of energizer she had hoped it would be. "The students are looking for their next project," she said. "Now they want to do the cafeteria and they said maybe we'll design a mural." ***J.F.K.***

SUNNY PAVILION CROWNS TUNNELED VAULTS

Books are traditionally housed in rooms defined by daylight. Statutes to Oxford's Bodleian Library even forbid anyone from bringing in any other source of light, the threat of fire posing too many risks. For centuries before electricity, a library was a navelike space, bathing readers and books alike in sunlight.

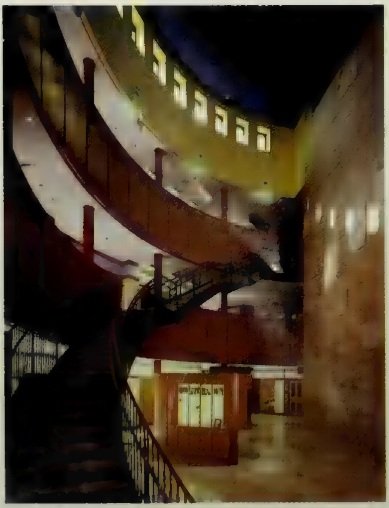
The sheer profusion of printed matter, paper's sensitivity to UV damage, and subsequent storage needs produced the antithesis of this earlier ideal. Books are often warehoused underground, lit by electricity, and divorced from readers. The recently inaugurated archival library at the University of Minnesota is a successful example of this modern type.

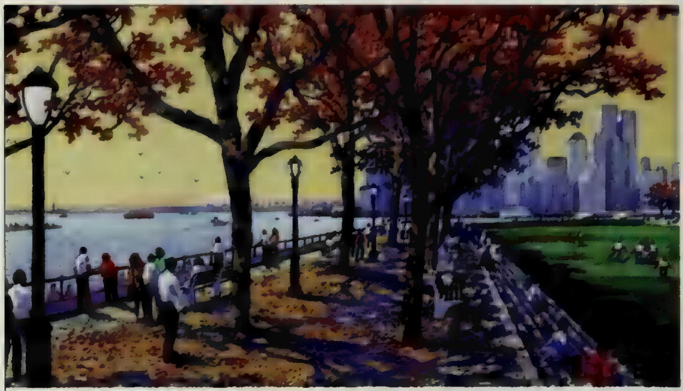
Located along the Mississippi River bluffs, the Elmer L. Andersen Library essentially consists of two cavernous vaults—each two stories high, measuring 600 by 65 feet—with service areas, all carved from sandstone. A so-called periscope, a stair and elevator shaft, rises some 80 feet from the vaults to pierce the ground surface. This shaft terminates in the library's main areas: 60,000 square feet of offices, reading rooms, and display areas. Compared with the expansive vaults below, these spaces are merely the tip of the iceberg.

The juxtaposition of a storage cave below and pavilion above makes the $46.5 million library a fascinating marriage of architecture and engineering. The vaults were tunneled from sandstone, directly beneath a harder limestone layer, which, in turn, forms the foundation for the library. The vaults' capacity is 2.5 million volumes, which, along with other artifacts, are held at a constant 62 degrees and 50 percent relative humidity. In contrast, the library spaces above open themselves to Mississippi vistas and the vagaries of daylight.

The library has already won five engineering awards—for precast concrete work in the underground vaults—but the architectural issues above ground were equally challenging. The library had to be shoehorned into a cramped site, while simultaneously relating to the West Bank campus' axes and Modernist architectural ensemble. The design also had to signal its entry point and important mission as a book repository. These requirements had to be met within a relatively compact building. Along the river bottom, siting and developing the vaults' four-story-high semi-trailer portal, fronting a scenic Mississippi stretch and the University's historic East Bank, was yet another tricky design issue.

The work of architects Stageberg Beyer Sachs, of Minneapolis, and engineers CNA Consulting, Ericksen Ellison and Associates, and Meyer Borgman Johnson made possible the Andersen Library, now being filled with holdings from various university sites, including the Northwest Architectural Archives. It is fitting that the distinctive work itself houses drawings and papers of some of the most distinguished architects and engineers who practiced in the upper Midwest.
Todd Willmert





COLLABORATIVE PROCESS CREATES THE HIGHLY PRAISED BROOKLYN BRIDGE PARK

Since the early 1980s, when New York's Port Authority stopped using its piers for shipping, various stretches of Brooklyn's East River shoreline were subject to revitalization schemes: all false starts. Finally, a promising master plan is on the table—a scheme designed with considerable community input. The project, a 70-acre park, would begin just north of the Manhattan Bridge, pass under the Brooklyn Bridge, and terminate at Atlantic Avenue. Covering 1.3 miles of city- and state-owned waterfront, the park would cost over $700 million and take about 10 years to complete.

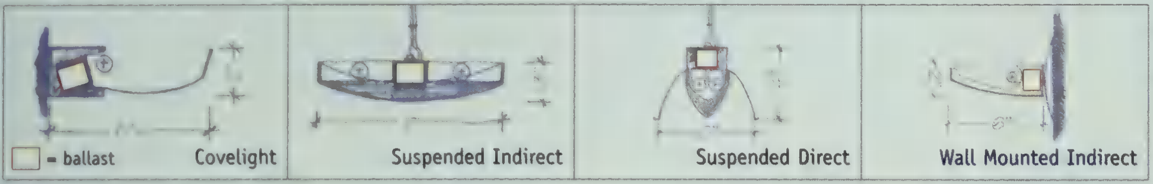
The plan was developed by the Brooklyn Bridge Park Development Corporation (BBPDC) and its consultants, Hamilton, Rabinovitz & Alschuler, through an unusually interactive public planning process. Fifty public meetings and a much-used Web site allowed the designers constant contact with the diverse local community. Led by architect/urban designer Ken Greenberg of Toronto's Urban Strategies and the landscape architecture firm of Michael Van Valkenburgh Associates of Cambridge and New York, the team found this intense public process invigorating.

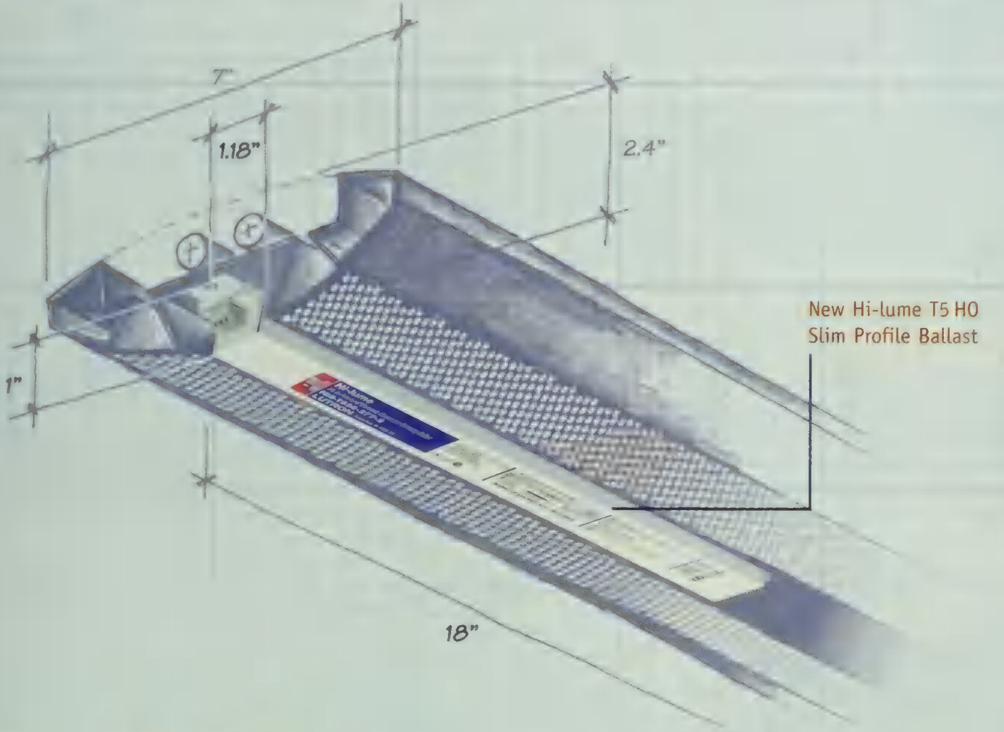
Reflecting the democratic methodology, the park has a permeable edge running the length of the site, allowing countless entry and exit points with spectacular Manhattan views. Commercial, cultural, and recreational activities actively engage the waterfront, interwoven with segments of pure landscape. Built structure comprises 18 percent of the plan and includes the rehabilitation of several warehouses, new hotels, restaurants, an education center, marina, and indoor recreation complex, expected to make the park financially self-sufficient. Greenberg hopes the park's overall design will "set the stage for excellent architecture," and notes, "there will not be stringent guidelines."

The landscape architecture was conceived as a collage with "four distinct landscape conditions or typologies that have been layered and intertwined," according to Van Valkenburgh. The ecological condition—or "in vitro nature," as he calls it, is expressed as a large area of renaturalized salt marshes. His Olmsted-inspired notion of "boundless landscape" takes many forms, including a series of rolling hills directly beneath the Brooklyn-Queens Expressway. Practical as well as romantic, this contoured landscape and an adjacent "bio-wall" would not only be beautiful but would dampen the deafening roar of traffic. A formal great lawn, a sophisticated recreation zone complete with half-pipe slope for skate boarders, and a rather grand tree-rimmed fountain constitute civic and urban landscape typologies.

Still awaiting approvals, the park's planners and the BBPDC are well on their way to realizing a first-class waterfront park in New York Harbor. *Susanna Sirefman*

New Hi-lume® dimming ballasts expand design possibilities for T5 HO luminaires

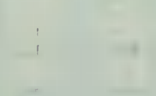




Hi-lume® T5 HO Ballasts Feature:

- True 1% flicker-free architectural dimming for T5 HO 54W lamps
- Slim profile steel case–1.00"h x 1.18"w
- 1.0 ballast factor
- 3-wire line voltage control for uniform luminaire-to-luminaire dimming
- End-of-lamp-life protection, current inrush limiting circuitry, <10% THD, >.95 power factor
- Rated for case temperatures of at least 75°C
- 100% performance tested; 35 years fluorescent dimming experience

Specify Hi-lume with Performance-Matched Lutron Controls:



Wallbox...

Wireless...

or Preset Scene.

Tech support: 24 hours/7 days: 1-800-523-9466
Product information: 1-877-2LUTRON ext. 407
or call your Lutron representative

LUTRON®
www.lutron.com/hilumet5ho

CIRCLE 48 ON INQUIRY CARD

FLOATING ARBORETUM CLEANS WASTE WATER

A Budapest firm has completed plans for what it believes could become a new wave in wastewater treatment plant design. The planners hope to float their concept on the Danube River early next year.

Architect Attila Bodnar, co-managing director of Organica Ecotechnologies; his partner Istvan Kenyeres, a chemical engineer and biotechnology specialist; and Daniel Hadhazi, a naval engineer have proposed a "Living Machine" treatment plant that would be built on a 176-foot-long, 500-ton capacity gravel barge, capable of treating 8,825 cubic feet of raw sewage daily.

A native-born Hungarian, Attila Bodnar was partner in an architectural firm, Denker & Bodnar, in Nyack, N.Y., from 1987 to 1998, and he designed a number of churches in New York: "I consider designing Living Machine facilities a natural progression from designing churches," he says. "Both have a cleansing effect."

When built, a greenhouse will enclose U.S.-developed modular, multistaged organic Living Machine reactors installed on the vessel's cargo deck. At the stern will be a laboratory for monitoring water treatment research and development and an elevated conference room, which can be used for teaching. A glass wall separating the conference room from the greenhouse will give occupants an excellent view of the arboretum-like Living Machine.

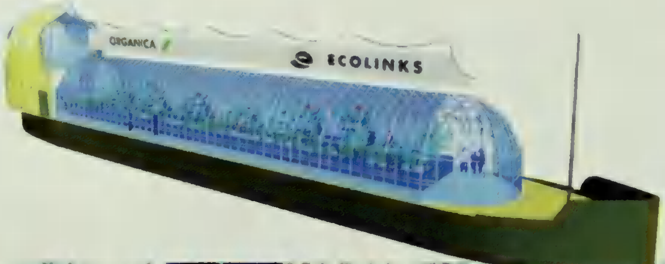
"One of the important aspects of this project is utility," says Bodnar. "We're going to be using one of the many barges currently rusting at moorings along the Danube. We'll be recycling an existing asset. Barges can be moved and used as interim plants until permanent facilities are built, or they can become permanent plants where land is not available near river or lakeside wastewater sources."

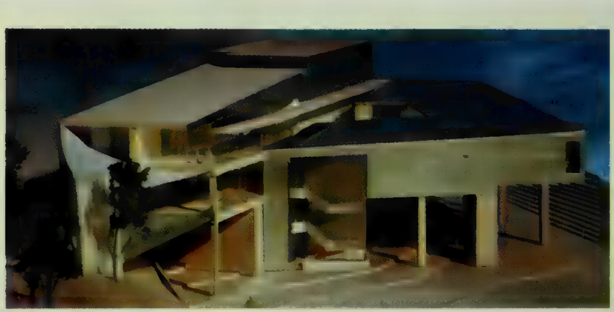
Such a vessel, however, presents its own unique architectural challenges, he says. "While it's a greenhouse, it's also potentially a moving structure, due to waves and so on. The total height of the greenhouse will be about sixteen feet above the deck, and the load-bearing structure has to coincide with the placement of the hull frames, which are spaced about 1.6 feet apart."

The greenhouse will consist of polycarbonate panels set in galvanized steel trusses. "Polycarbonate provides better insulation than single glazing," Bodnar says.

Developed by Ocean Arks International of Burlington, Vt., the Living Machine system incorporates thousands of species of plants, bacteria, microorganisms, zooplankton, snails, clams, crabs, and fish in an enclosed, sunlit, managed environment in order to break down and digest organic pollutants in municipal and industrial wastewater. As Bodnar puts it, "It's an arboretum that cleans wastewater."

About two dozen land-based Living Machine systems have gone into operation in the U.S. and overseas during the past decade. Organica Ecotechnologies also designed and is overseeing the construction of the first Living Machines facility on the European continent, at a $70 million, 856,000-square-foot office and warehouse complex in Budapest. *Carl Kovac*





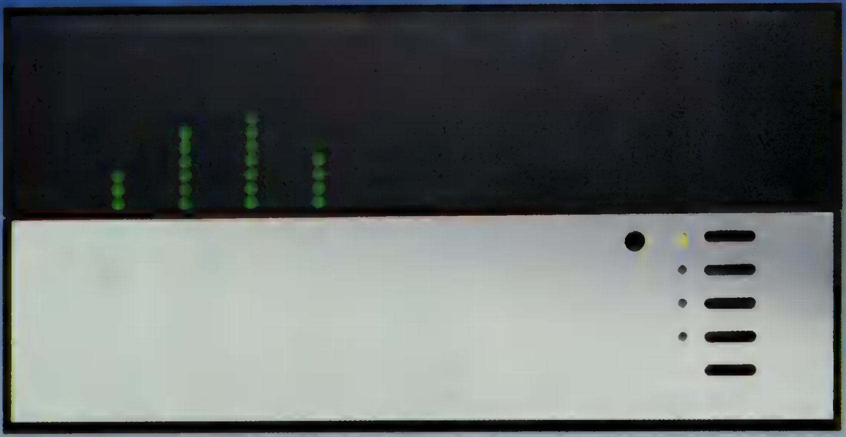
PREDOCK'S TACOMA ART MUSEUM WILL CAPTURE THE ELUSIVE QUALITIES OF MT. RAINER **A glimpse of Mt. Rainer's three-mile-high summit, cloaked in clouds two-thirds of the year, is cause for celebration in nearby Tacoma, Wash. Antoine Predock, FAIA, evokes the ephemeral nature of the snowcapped mountain with a design in stainless steel and glass for the $25 million Tacoma Art Museum (TAM).**

The 50,000-square-foot museum will present a streamlined, barlike volume along the edge of downtown with an outdoor plaza angled toward the peak. Visitors will pass under a "cloud" of translucent fabric and over suspended stainless-steel grating before entering the lobby. A ramp will gradually ascend through a series of galleries wrapping what the architect calls an outdoor "mist moss garden," enclosed by prismatic two-way glass. The procession culminates in a 5,000-square-foot main gallery for rotating exhibits and an art resource center with views down to the lobby and, on clear days, out to Mt. Rainer. To take advantage of the site's steep drop to the waterfront, this two-story volume sits on stilts over two-stories of storage, loading dock, and service space below street level. Olson/Sundberg, Seattle, is executive architect for the project, which is expected to open in 2003.

Tacoma's reputation as a smoke-belching mill town may be redeemed by a wave of new museum construction downtown. The TAM is just north of the 1996 Washington State History Museum by Charles Moore/Arthur Andersson, Houston, and will be joined by a new International Glass Museum by Arthur Erickson/Nick Milkovich Architects, Vancouver, BC, and the $75 million LeMay Car Museum. A 600-foot-long pedestrian bridge, designed by glass artist Dale Chihuly and Andersson, will connect the city center to the new Thea Foss esplanade—an $88 million plan by ZGF, Seattle, and Reed Reinvald Johnson Willows, Tacoma, to redevelop the waterfront with parks, retail, and residential projects. ***Sheri Olson***

GRAFIK Eye.

Preset Lighting Controls



Faceplate available in architectural metal finishes and a variety of colors. Shown in Satin Nickel.

New Performance Innovation Solutions

new **RTISS™** EQUIPPED

New smart electronics filter poor power quality conditions.

Ideal for open offices and meeting rooms.

Patent Pending

new **2Link** READY™

DMX512 Theatrical Applications.

Controls lights from a GRAFIK Eye or theatrical console through the same Lutron power panel.

Ideal for hotel ballrooms, auditoriums, houses of worship and schools.

new **Softswitch™**

Arcless switching for 20 times better reliability than relays.

Ideal for entire floors and buildings.

Patents 5,309,068 and 5,633,540

Problem:

Depending on incoming power conditions, light levels change or flicker throughout the work day, causing interruptions and distractions in meeting rooms and open office environments.

RTISS Solution:

Lutron's filter circuit technology compensates for incoming line-voltage variations and eliminates annoying light level fluctuations.

Features of GRAFIK Eye Preset Lighting Controls:

- ◊ Control any light source
- ◊ Save and recall multiple scenes
- ◊ Integrate with AV, shades, security, HVAC and other building and residential systems
- ◊ Specified and installed in over 90 countries
- ◊ Tested in real world conditions
- ◊ Applications engineers available 24 hours a day, 7 days a week

LUTRON®
LIGHTING CONTROL SOLUTIONS

Free video, detailed product information: lutron.com/grafikeye-ad **or 1-877-2LUTRON, ext. 212.**

CIRCLE 49 ON INQUIRY CARD

CONTROVERSY OVER GREEN HERO

Examples of Reynold's Earthship houses, constructed from beer cans, bottles, and tires molded into adobe.

For three decades, Michael Reynolds has attracted international attention for his "Earthship" houses made of beer cans, bottles, and old tires molded into adobe, bermed into hillsides with passive solar heating, windmills, photovoltaic power, and self-contained wastewater systems. But earlier this year, about the time the University of Cincinnati named him alumnus of the year, Reynolds voluntarily gave up his New Mexico architecture and construction licenses after a year-long dispute with several clients.

Reynolds vows to clear his name by suing for defamation of character those who filed complaints against him to the state Board of Examiners for Architects. He intends to get back his licenses. "They're throwing around words like 'gross negligence,'" he says. "Any architect who does not design with at least 75 percent sustainability in this day and age is guilty of gross negligence!"

The director of the state Board of Examiners says complaints against Reynolds involved inappropriate siting, subsurface water accumulation, waste disposal on slopes, and incompetent construction administration. The case will be passed on to NCARB.

Reynolds says the complaints stem from aiding more than 1,000 people build their homes. "That puts you in a vulnerable position," he explains. "When a licensed contractor is involved, the owner-builder's position becomes null and void, and the licensed contractor is responsible," he adds. "So, if the owner-builder makes a code violation, no matter how small, two years after I leave the project in terms of my guidance, I, as the contractor or architect, would be responsible."

Reynolds, 54, lives and works in the Greater World community near Taos. He is changing the name of his company from Solar Survival Architecture to Biotecture so that he won't break the state's ban on calling himself an architect. "What I'm saying is, I'll go to any extreme to make a sustainable building, even if I have to help an owner-builder without a contract, without a fixed price, without normal AIA things that make any architecture, let alone sustainable architecture, out of the reach of the common, ordinary citizen." *Thomas Sharpe*

NOTED FATHER OF PRESERVATION AND CONSERVATION DIES

James Marston Fitch 1909–2000

James Marston Fitch, founder of Columbia University's Graduate Program for Historic Preservation and noted historic preservationist, died on April 16, 2000. "He was one of the most important architects of the twentieth century in that he foresaw the movements of historic preservation and green architecture, which have become so defining in this century," says Richard Blinder, FAIA, partner of Beyer Blinder Belle Architects in New York, where Fitch served as director of historic preservation for 21 years. These fields of study grew out of the ideas Fitch put together in a two-volume series of books called *American Building: The Historical and Environmental Forces that Shape It* (1948, 1970, and 1972).

He had a broad-based respect for the value of preserving existing structures, including all manner of buildings, be they monumental or modest.

After heading the preservation program at Columbia University from 1964 until 1977, he embarked on his second career in private practice.

Born in 1909, he attended the University of Alabama and School of Architecture at Tulane University. He received five honorary doctorates throughout his career.

Mr. Fitch was an editor at ARCHITECTURAL RECORD from 1936 to 1939. "He had a unique perspective that looked at architecture as interacting parts of a whole: history, environment, human psychology, and aesthetics. He was a true renaissance man," Mr. Blinder said.

The last work Fitch did for ARCHITECTURAL RECORD was an article on architectural criticism in July 1982 that proposed that architecture is empirical and cannot be analyzed abstractly without first-hand experience: "Architecture today needs historians, theoreticians, and critics who approach it from conceptual positions inside the field. Persons who understand that architecture is our prime instrument of environmental control and that its current inadequacies can be corrected only by a factual analysis of its performance, not by metaphysical disquisitions on its appearance." His book on environmental forces was republished last year by Oxford University Press and will continue to be an important text at schools of architecture. *J.F.K.*

LIBRARIAN, WRITER & SPOKESMAN DIES

Adolf K. Placzek, 1938–2000

Adolf K. Placzek, distinguished architectural librarian, historian, editor, and preservationist, died March 19, 2000. He had spent 32 years at Columbia University's Avery Architectural Library, which under him became one of the world's finest collections. He retired in 1980 but continued to work prolifically. He was editor in chief of the invaluable four-volume *Macmillan Encyclopedia of Architects,* a collection of biographies of more than 2,000 architects. Born in Vienna and a 1938 graduate of the University of Vienna, Mr. Placzek came to the United States in 1940. *J.F.K.*

PEACE OF MIND

We nurture them. We guide them. We would give anything to protect them. And, we rely on design professionals to build the safest schools and facilities to house them when they are beyond our watchful vigilance. That's why building officials are demanding 100% non-combustible construction for schools, day care centers, and other institutional structures. It's peace of mind, and you can't put a price on that.

The remarkable ***ULTRA-SPAN***® light gauge steel truss system from MiTek Industries offers the safest, most cost-effective way to put completely non-combustible sloped roofs on commercial structures. Our nationwide network of fabricators can provide a fully engineered, pre-fabricated, UL® classified, light gauge *system* for almost any roof you can imagine. All you need to do is specify ***ULTRA-SPAN*** trusses made from 100% mill certified prime steel. You'll rest a little easier knowing your roof is in the hands of real truss professionals.

Contact MiTek's Steel Framing Systems division for more information on ***ULTRA-SPAN***.

And, be sure to ask about the revolutionary new ***PinacleTeam™ System*** – the *only 100% warranted* commercial roofing system, from the plate-line up!

MiTek®

MiTek Industries, Inc.
P.O. Box 7359. St. Louis, MO 63177 ▪ FAX 314/434-5234
www.mitekinc.com ▪ 800/325-8075
CIRCLE 112 ON INQUIRY CARD

ULTRA-SPAN®

LIGHT GAUGE STEEL TRUSS SYSTEM

A CONSTRUCTIVIST SCULPTURE FIT FOR A FAMILY?

One of the most significant pieces of residential architecture in New York City recently changed hands: the Beekman Place apartment of the late Paul Rudolph and the six floors beneath it.

Renovated by the Brutalist architect Rudolph starting in the late sixties (he tweaked it until his death three years ago), the nine-story building—and, in particular, the treehouse-like triplex apartment at its crown, where Rudolph himself lived—is a work more indicative of the architect's playful character than the rigid Modernist tenets to which he subscribed.

Rudolph treated the triplex as a laboratory for exploring ideas that compelled him throughout his life: formal notions of transparency and manipulation of depth, as well as a fascination with pure provocation. With more than 30 discrete levels in the apartment, see-through landings, dozens of mirrored surfaces, steep banisterless stairways, and gaping holes that plunge several stories, the dizzying environment is more of a fun-house built for an eccentric Cubist-leaning designer than a family-friendly urban dwelling.

The building's new owners, however, are indeed a family: former Californians Michael Boyd, 40, Gabrielle Boyd, 35, and their two sons, Sam, 9, and Henry, 5. After purchasing the building in late April for $5.5 million, the Boyds immediately began the process of converting it into a single-family residence to house themselves and their extensive collection of Modernist designs, some of which were displayed last year at a show at the San Francisco Museum of Modern Art.

"When we first bought the house and called the kids in California, the first question our older son, Sam, asked was, 'Is it good architecture, Dad?'" recounts Michael Boyd. While "good architecture" may be a salve for the spirit, what of the inherent dangers of a cantilevering bathtub and gaping wells the size of a small child? "We have no railings in our house or office at the moment, so that sort of thing won't be unusual for them," said Mr. Boyd. "They're smart kids. If we tell them, don't do that, it's dangerous, they won't do it," he says confidently.

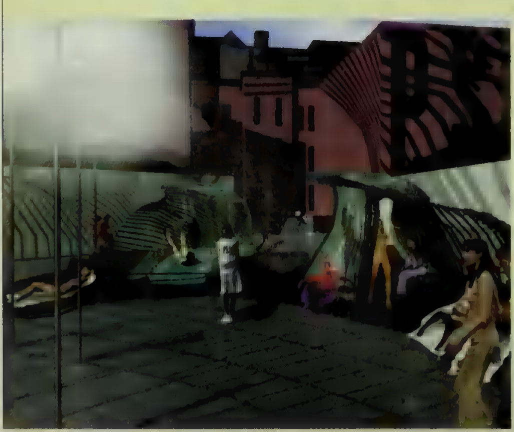
The Boyds, who are in the business of scoring music for television and radio commercials, plan to live in the apartment in a "minimalist, spartan way," declares Mr. Boyd, and to repair and restore the space but not renovate it. "We want to live as closely to Rudolph's intention as possible," said Mr. Boyd. But, due to complexities of the estate, most of the architect's furnishings and personal effects had to be removed prior to the Boyd's taking ownership. "This place is not an intact representation of Rudolph's vision. It is not the John Soane house," says Mr. Boyd. "And that was not our choice. At some point, however, we hope to buy back as much as possible of Rudolph's property and reinstall it."

While the Boyds wish to invite lovers of modern architecture into the house, they emphasize that, because it is a private home, there will be limits to their ability to do so. Still, watch for tours of the Rudolph triplex to be offered through some of New York's cultural institutions.

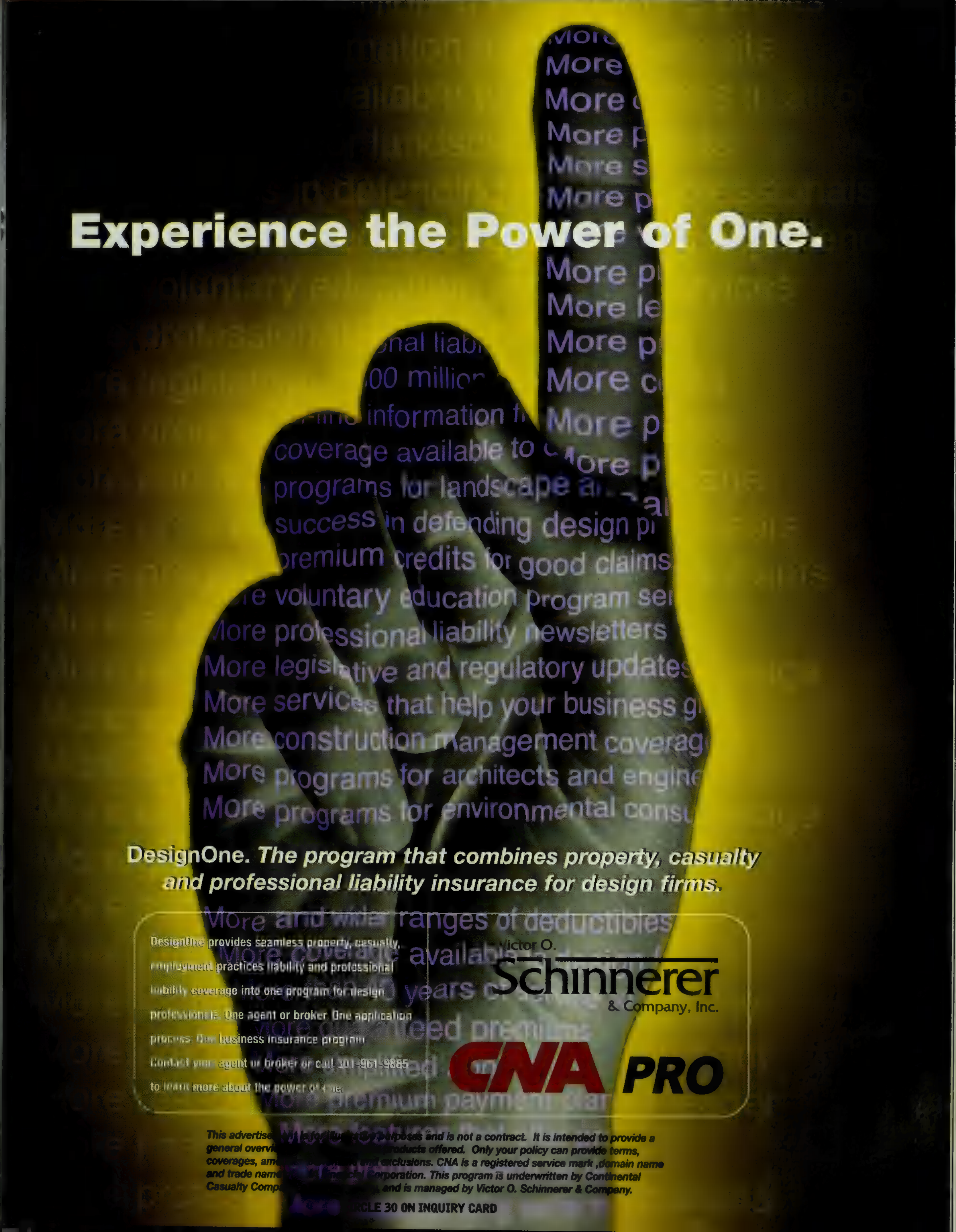
"The point we're trying to make by moving into this place is that it is not at all clear that Modernism failed," explained Mr. Boyd. "We want to be guinea pigs for this experiment. We feel like a family going into outer space."

"A lot of people see this as a vertigo-inducing place," adds Mrs. Boyd, "but we see it as a Constructivist sculpture." *Bonnie Schwartz*

EMERGING TALENT RECEIVES PROGRAM OF RECOGNITION **Programmatic elements of cabana, beach chair, umbrella, boogie board, and surf form the basis of organization for the SHoP/Sharples Holden Pasquarelli's design, which was selected [illegible] the first winning project in [illegible] new series of five competitions geared toward students, recent grads, and firms experimenting with new styles or techniques. Twenty entrants were nominated for the competition by deans of architecture schools and editors of architecture publications. The winning entry, a landscape for summer relaxation in P.S. 1's outdoor courtyard, features areas for visitors to sit or lie down, socialize, sunbathe, wade in pools or walk through [illegible] spray of water mist to cool off. It is a flexible but not moveable form made from 2-by-2 cedar members with areas of vinyl. The structure is surrounded by a mist garden generated from adjustable pole atomizers. Recirculating water runs along the exterior surface of the form into [illegible] wading/reflecting pool at the structure's base.**



P.S. 1, formerly an abandoned, underutilized building in Long Island City, Queens, was transformed in 1971 to performance and studio spaces for artists. MoMA and P.S. 1 Contemporary Art Center are collaborating to host the design competitions. Glenn Lowry, director of the Museum of Modern Art, remarked: "This inaugural project furthers our curatorial mission, identifying and providing an outlet for emerging young talent. It aims to give something back to the community that has been so supportive of us." ***JFK***



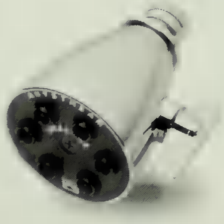
Experience the Power of One.
More
More
More p
More s
More p
More p
More le
More p
More c
More p
More p
onal liab
00 millio
information fr
coverage available to
programs for landscape a
success in defending design p
premium credits for good claims
re voluntary education program se
More professional liability newsletters
More legislative and regulatory updates
More services that help your business g
More construction management coverag
More programs for architects and engine
More programs for environmental consu
More and wider ranges of deductibles
More coverage available
years
More guaranteed premiums
More premium payment plan
Victor O. Schinnerer & Company, Inc.
CNA PRO

DesignOne. ***The program that combines property, casualty and professional liability insurance for design firms.***

DesignOne provides seamless property, casualty, employment practices liability and professional liability coverage into one program for design professionals. One agent or broker. One application process. One business insurance program. Contact your agent or broker or call 301-961-9885 to learn more about the power of One.

This advertisement is for illustrative purposes and is not a contract. It is intended to provide a general overvi[illegible] products offered. Only your policy can provide terms, coverages, amounts, conditions and exclusions. CNA is a registered service mark ,domain name and trade name of CNA Financial Corporation. This program is underwritten by Continental Casualty Comp[illegible], and is managed by Victor O. Schinnerer & Company.

CIRCLE 30 ON INQUIRY CARD



SPEAKMAN

www.speakmancompany.com
1.800.537.2107

CIRCLE 90 ON INQUIRY CARD

PLANS TO PRESERVE NEUTRA'S HUMBLE, CRUMBLING HOME

A campaign has been launched by the California State Polytechnic University in Pomona to restore Richard Neutra's Los Angeles residence. Known as the VDL Research House, it was the famous Modernist architect's home for nearly 40 years. After his wife, Dione, died in 1990, it was bequeathed to the Cal Poly Foundation. Sadly, the house has fallen into disrepair. Recently, the World Monuments Fund added the house to its list of 100 most endangered sites on the globe for the year 2000.

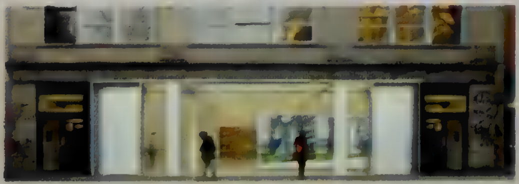
Built in 1932, Neutra's home earned its name from a chance meeting. The Dutch industrialist, C.H. Van der Leeuw, had flown to Los Angeles to see Neutra's Lovell House, the first steel-framed house in America. When the visitor asked to see Neutra's own home, the architect confessed he lived in a rented bungalow. Astonished, Van der Leeuw immediately wrote Neutra a check for $3,000. The architect responded by designing a long, thin box with identical casement windows running the length of both stories. The lower level served as Neutra's office while, above, the living area afforded wonderful views over the Silver Lake reservoir.

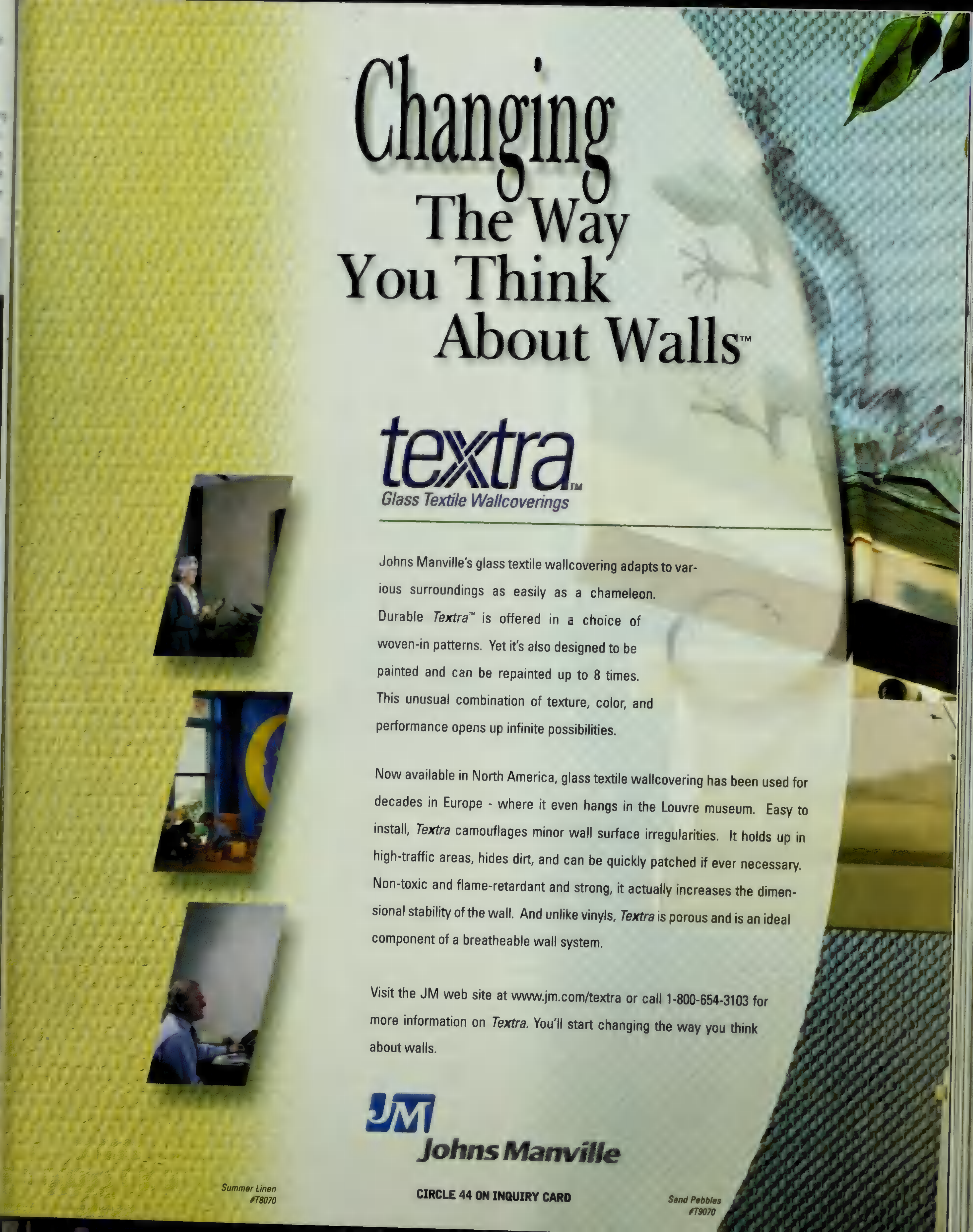
Only 2,100 square feet, it became a model of how to expand the sense of livable space far beyond the norms of traditional floor plans of this size. In 1963 the house burned to the ground. It was rebuilt on its existing foundations with the architect's son, Dion, supervising its design.

VDL II became the site for design experiments from the 1960s: six wide, 30-foot-high aluminum louvers were hung off its facade, providing respite from the afternoon sun; a stone wall—each stone placed vertically—formed part of the rear exterior; large speakers were placed in the ceilings.

Today, an album of Dione Neutra playing the cello remains on the turntable, the books on the shelves have never been shifted, and Richard Neutra's bed tucked into a tiny, corner bedroom looks untouched. Architecture lovers hope that when the house containing these poignant memories is restored, there will be a much more significant monument to this architect's life of experimentation. For information, call Sharon Avant, The College of Environmental Design, California State Polytechnic University, Pomona. (909) 869-2667. *David Hay*

NEW AIA N.Y. HEADQUARTERS MOVES FORWARD **"An elegant and economic solution to the problem with a clear phasing strategy," noted juror Eeva-Liisa Pelkonen on the selection of Andrew Berman for design of the new AIA/New York headquarters in Greenwich Village. "The relationship between the ground-floor gallery and the auditorium below is intelligent and spatially interesting," Pelkonen continued. There were five finalists chosen from over 50 entries—other finalists included Robert Federico of Gensler; Craig Konyk of Konyk Architecture; Jesse Reiser and Nanako Umemeto of Reiser + Umemeto Architecture PC; and Claire Weisz and Mark Yuoes of Claire Weisz Architects. The jury was composed of Alan Balfour, dean of the School of Architecture, Rensselaer Polytechnic Institute; Sheila Kennedy, AIA, associate professor at the Harvard Graduate School of Design, Eeva-Liisa Pelkonen of Yale University School of Architecture; Joseph Rosa, curator of the Heinz Architectural Center at the Carnegie Museum of Art; and Margaret Helfand, FAIA, president elect of AIA/NY. The three-story, 10,800-square-foot building boasts street level exposure which will be initially developed; other areas of the building will be phased as fund-raising goals are met.** ***JFK***





Changing The Way You Think About Walls™

textra™

Glass Textile Wallcoverings

Johns Manville's glass textile wallcovering adapts to various surroundings as easily as a chameleon. Durable *Textra*™ is offered in a choice of woven-in patterns. Yet it's also designed to be painted and can be repainted up to 8 times. This unusual combination of texture, color, and performance opens up infinite possibilities.

Now available in North America, glass textile wallcovering has been used for decades in Europe - where it even hangs in the Louvre museum. Easy to install, *Textra* camouflages minor wall surface irregularities. It holds up in high-traffic areas, hides dirt, and can be quickly patched if ever necessary. Non-toxic and flame-retardant and strong, it actually increases the dimensional stability of the wall. And unlike vinyls, *Textra* is porous and is an ideal component of a breatheable wall system.

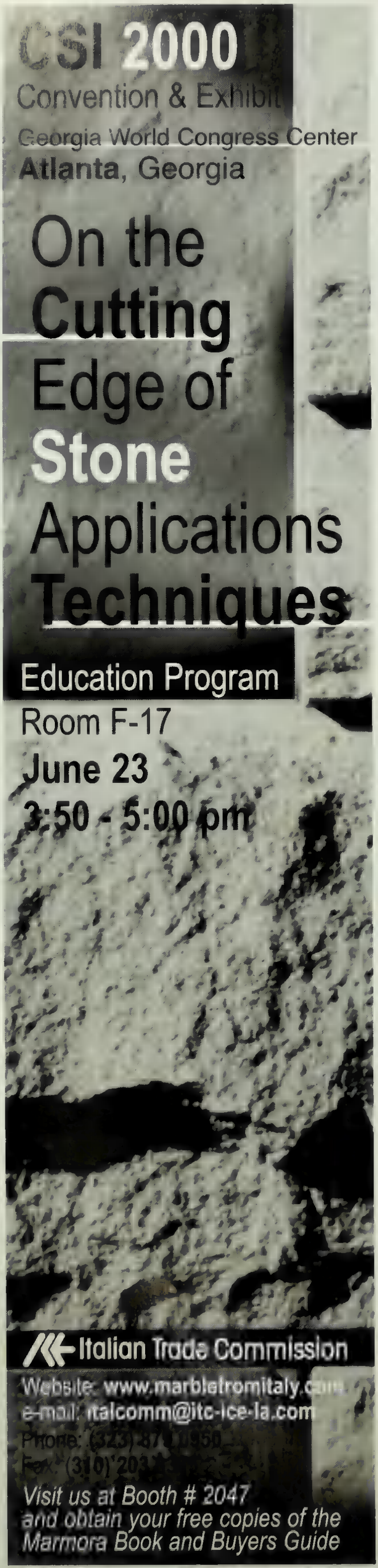
Visit the JM web site at www.jm.com/textra or call 1-800-654-3103 for more information on *Textra*. You'll start changing the way you think about walls.

JM
Johns Manville

Summer Linen
#T8070

CIRCLE 44 ON INQUIRY CARD

Sand Pebbles
#T9070



CSI 2000
Convention & Exhibit
Georgia World Congress Center
Atlanta, Georgia

On the **Cutting** Edge of **Stone** Applications **Techniques**

Education Program
Room F-17
June 23
3:50 - 5:00 pm

Italian Trade Commission
Website: www.marblefromitaly.c
e-mail: italcomm@itc-ice-la.com
Phone: (323) 87[illegible]950
Fax: (310) 203 [illegible]

Visit us at Booth # 2047
and obtain your free copies of the
Marmora Book and Buyers Guide

CIRCLE 87 ON INQUIRY CARD

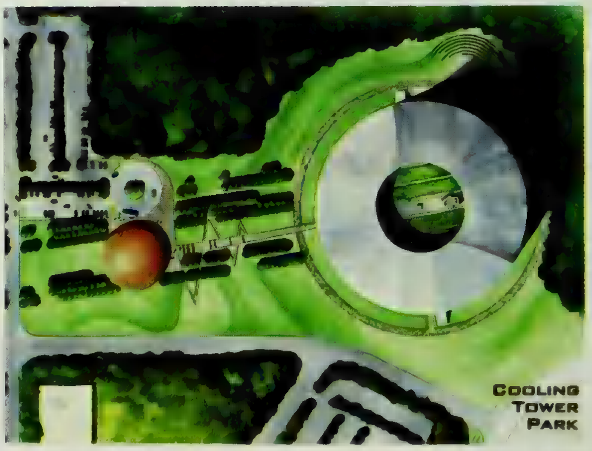
SEATTLE, SILOS & SALMON: WHAT TO DO ABOUT "WHOOPS"

On the Chehalis River, near Aberdeen, Wash., the Satsop Nuclear Power Station has struck passersby on the Olympic Loop Highway as both absurd and sublime. Under construction since the 1970s, the 400-acre facility is a case study in unplanned obsolescence—it was never fueled. The Washington Public Power Supply System (WPPSS, or Whoops, as it is known locally) defaulted on $2.25 billion in municipal bonds in 1983, rendering the completion of the plant moot. The state legislature passed special legislation in the early 1990s transferring the site (with its $2 billion worth of infrastructure) to a local public-development authority.

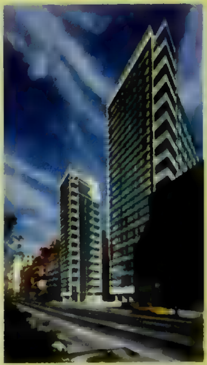
The twin cooling towers, nearly 500 feet high, are now slated to serve as markers on the landscape. The immense interior clear spaces are large enough to house a football field, and, in a fascinating twist of fate, one will now shelter an arboretum—an elegant reflection of the surrounding forest.

This master-planning effort includes a collaboration between CNA Architecture, of Bellevue, Wash., as architects and Anderson and Ray, Seattle, as landscape architects (they have been conjuring wry thematic forms of adaptive reuse for the site since 1995). The phantasmagoric forms include: "Asphalt Sea," "Salmon Hatchery/Cooling Tower," and the arboretum.

The vast site is under reconfiguration as a technology and business park with recreational amenities. With access to Grays Harbor, on the Pacific, the site may prove an irresistible destination for post-industrial tourism. Having decided early on to retain the towers, the client and designers have launched a high-profile demonstration of adaptive reuse for industrial, albeit morally bankrupt, facilities. The insertion of botanic collections and the transformation of unfinished portions of the energy plant to real and fictive environmental systems is a decisive convergence of iconic technological forms and the shifting shapes of nature. *Gavin Keeney*



COOLING TOWER PARK



MEIER TAKES MANHATTAN **Joining the ranks of celebrity architects such as Robert Stern and Michael Graves, Richard Meier has designed his first residential tower for Manhattan. Although Pritzker Prize winner Meier has been based in Manhattan since 1963, this is his first ground-up building here, and according to him, "It's about time." (In 1969, Meier converted a former Bell Laboratories building on Manhattan's lower west side into West Beth artists' housing.)**

The new project, not far from West Beth, on Perry Street in Greenwich Village, proposes two 16-story condominium towers, linked by adjacent entrance lobbies. Commanding views of Hudson River Park and the river beyond, the buildings will be sheathed in floor-to-ceiling glass, set in white (surprise, surprise) metal-clad framing, with rear fin walls and interior columns of concrete. Each of the 28 raw floor-through lofts, ranging in size from 2,000 to 4,000 square feet, will open onto small terraces, which Meier considers, "the second greatest luxury in Manhattan, the first being light and space."

Set for completion in late 2001, the building will also include an adjacent art gallery and a ground-level public cafe, accessed over a bridge spanning a reflecting pool. Savvy potential buyers, who want spaces worthy of their Alessi and Target home products, can also opt for interior design by Meier himself. ***Susanna Sirefman***

AIR DISTRIBUTION

Art and air distribution become one.
Integrate imaginative design concepts into functional
architectural solutions. Style. Performance. Aesthetics.
Brought together utilizing the elegant lines and graceful
curves of Formations Custom Linear Air Diffusers.

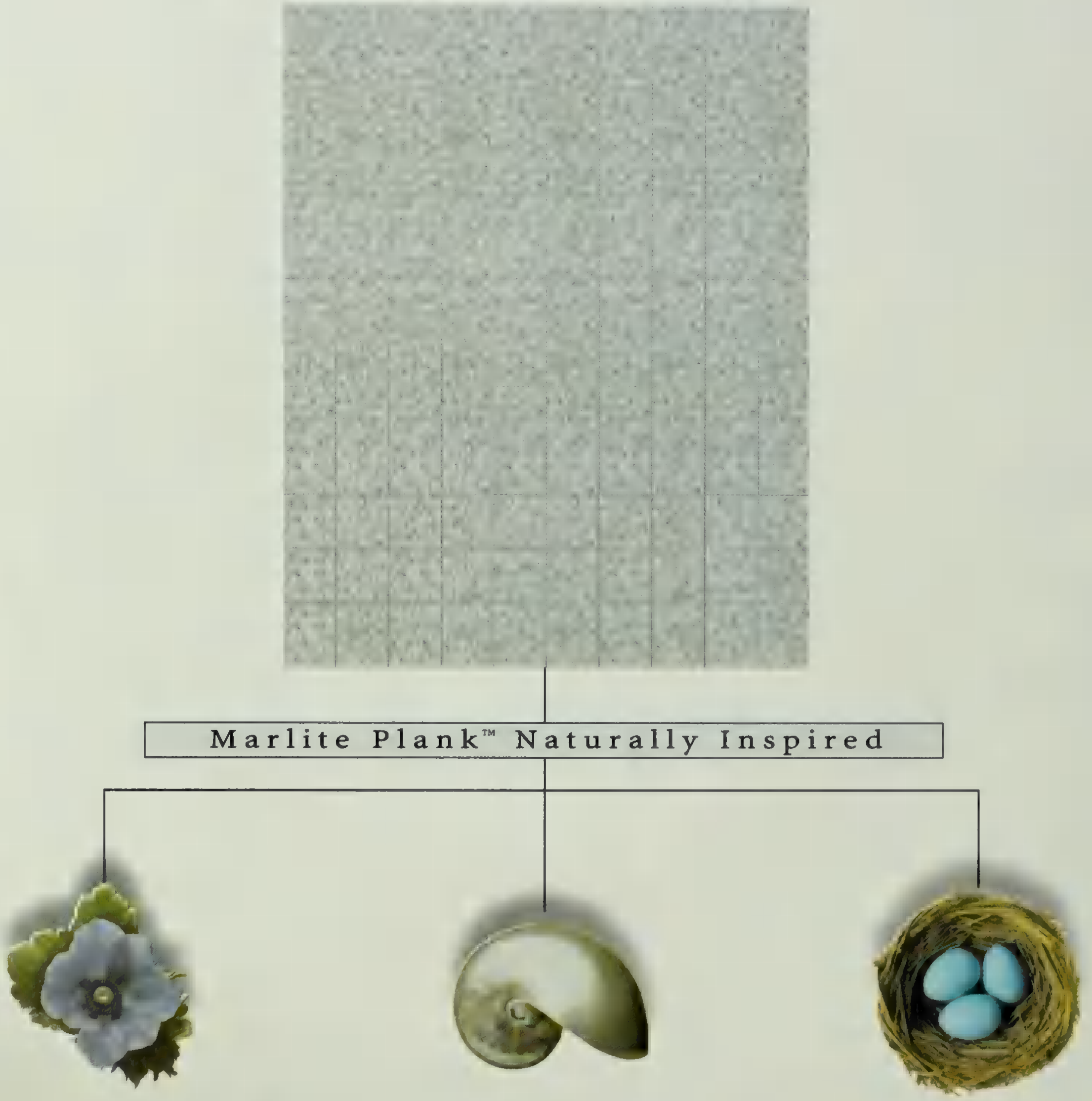
formations
exclusively at METALAIRE

S DIRECTORY CATALOG CD ONLINE **Architects' First Source** CMDGROUP

E-MAIL: formations@metalaire.com **WEB:** www.metalaire.com **PHONE:** 727 441 2651

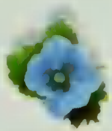
CIRCLE 53 ON INQUIRY CARD

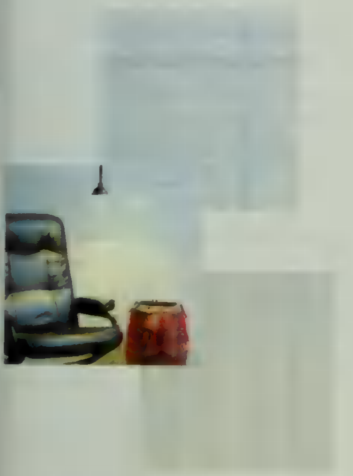
Natural instincts



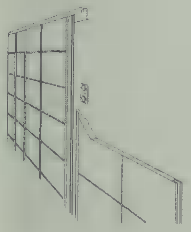
The song of a bird. The rush of the tide. The sweet smells of summer linger in the back of our minds. And the delicate hues of the natural world around us serve to color our thinking.

CIRCLE 110 ON INQUIRY CARD





Marlite Plank has long been recognized for its highly durable, easy-to-maintain finishes. Now, an ever-expanding palette of contemporary patterns, solids and woodgrains offer more aesthetic choices than ever before. The 16" wide planks can be scored with a grid pattern, or vertical scorelines only. Contact us today for more information about Marlite Plank.



Tongue and groove planks install easily to subwall with adhesive and clips.

Marlite
(330) 343-6621 Fax: (330) 343-7296
www.marlite.com e-mail: info@marlite.com

TWO TORONTO FIRMS WIN PRIZED U.S. COMMISSIONS: HOW'D THEY DO THAT?

The Detroit Symphony Orchestra (DSO) recently selected A.J. Diamond, Donald Schmitt & Company, Toronto, to design a 130,000-square-foot, $60 million renovation and expansion of its 81-year-old orchestra hall, in association with Detroit-based architects Gunn Levine Associates. The new wing will include a lobby and atrium, grand staircase, pre- and post-concert facilities, dressing rooms, and a 550-seat second hall.

Peter D. Cummings, DSO's chairman of the board, said the Toronto firm won the competition because of its success in designing performing arts facilities and its respect for landmark structures.

In a comment tinged with understatement, Donald Schmitt, design principal in charge, noted: "We thought we were the major underdogs, but we seemed to have the right balance of understanding heritage and urbanity." They were up against formidable competitors: Polshek Partnership Architects of New York; William Rawn Associates of Boston; Kuwabara Payne McKenna Blumberg of Toronto; and Tod Williams Billie Tsien and Associates of New York. *Albert Warson*

Another Toronto firm wins prized U.S. commission—Did you hear an echo?

This fall, the Goodman Theatre, Chicago's leading playhouse, moves to a facility in the revivified Randolph Street theater district, where the long-shuttered Oriental and Palace theaters have already been restored.

The new Goodman, designed by Kuwabara Payne McKenna Blumberg (KPMB) of Toronto and incorporating the facades of the 1922 Selwyn and Harris theaters, comprises a 400-seat performance space with a flexibly configured stage and an 840-seat proscenium auditorium.

The Goodman presented what KPMB associate-in-charge Chris Couse good-naturedly calls "probably the worst acoustical environment in which to build a theater that you could possible find, with the subway line underneath and the 'El' immediately adjacent. When the subway tunnels were built, the Harris and Selwyn theaters were refounded on a new system of a caissons and grade beams that come down between the tunnels. That meant we had to essentially construct a new building inside the existing building but on resilient bearing pads at the basement level. The new theater is, in fact, a new building with its own shell to separate it from the noisy existing building." *Thomas Connor*

Beating the competition

KPMB Architects didn't really expect to beat American architectural giants Cesar Pelli and Kohn Pedersen Fox, former colleague Barton Myers and Toronto competitor Zeidler Roberts Partnership in a design competition for the new Goodman Theatre here, but they did.

Thomas Payne, KPMB partner in charge, explains that he and another KPMB architect had worked on the Portland Center for the Performing Arts years earlier with Myers, which the Goodman Theatre people admired. They also "pitched hard," says Payne, and won with their local team.

When asked about the selection of KPMB, Cindy Bandle, the theater's press director, explains: "Our artistic and administrative staff, in collaboration with the Goodman boards, have worked as a team for the past 10 years to provide the Goodman artists, staff, and audiences with a state-of-the-art theater complex.

"After dozens of visits to theaters all over the world, they had a very clear vision of what they wanted. They met with some of the firms, and in collaboration with the Goodman board, selected KPMB. Not only did the firm have the prerequisite experience in theater design and renovation, but they had an energetic perspective on design that matched the culture of the Goodman artists and staff." *Albert Warson*

PHOTOGRAPHY: ■ IMAGEFICTION.COM (BOTTOM)

A building like no other: Zaha's Bergisel ski jump

By housing a variety of programmatic elements within the graceful ski jump, Zaha Hadid fully joins form and function. Winner of an international design competition, the building, slated for completion by late 2000, will stand as a major landmark in the ski resort town of Innsbruck, Austria. It is a hybrid of a highly specialized sports facilities with public spaces including a cafe, viewing terrace, and space for athletes to prepare before jumps. These functions are combined into a single new shape that extends the topography of the slope into the sky.

Some 295 feet long and almost 164 feet high, the building is a combination concrete tower and steel bridge, which integrates the ramp and cafe. Since skiers can jump further today than they used to, the ramp had to be moved higher on the hill. Two elevators bring visitors to the cafe, 131 feet over the peak of the Bergisel mountain. From here, they can enjoy the surrounding alpine landscape and watch from below as the athletes fly above the Innsbruck skyline.

Duke selects Viñoly for campus museum

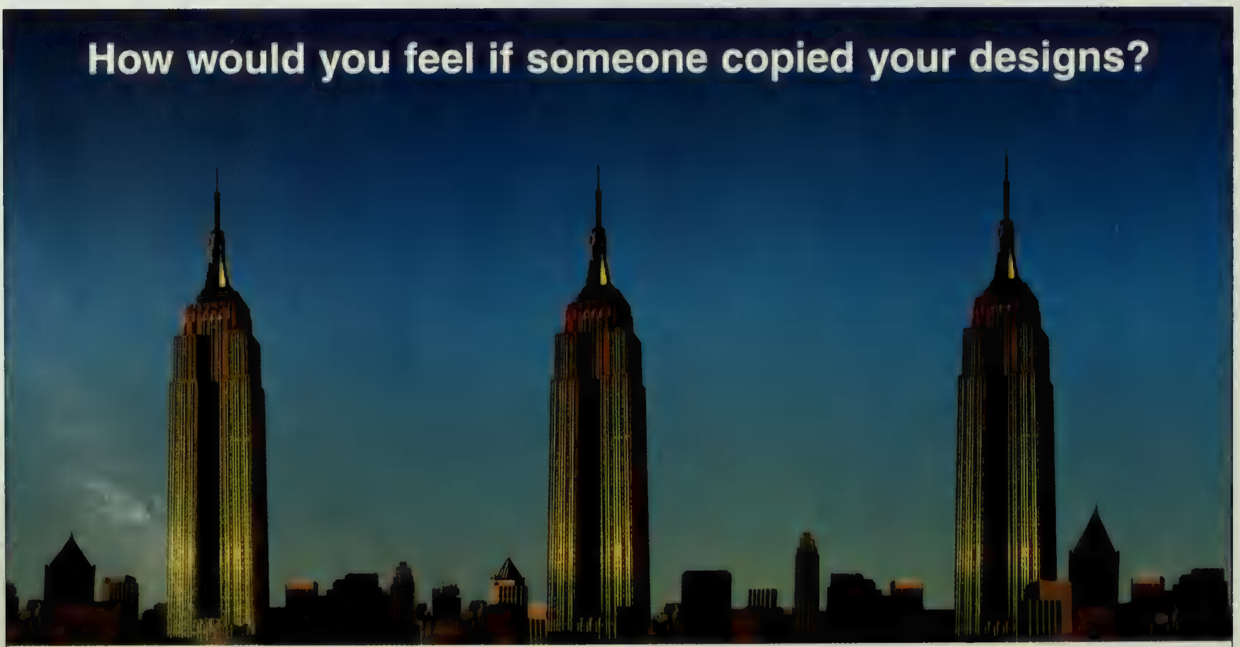
Rafael Viñoly has been selected to design the Nasher Museum of Art at Duke University. Funded by a gift from Raymond D. Nasher, a Dallas art collector, philanthropist, real-estate developer, and alumnus, the new museum is expected to feature galleries for a permanent art collection, an outdoor sculpture garden, an atrium, and galleries for special exhibitions. It will also include classrooms, offices, and a cafe.

Honorees toasted in Beard awards

In May, winners were announced for the 10th annual James Beard Foundation Awards, honoring excellence and achievement in the culinary industry. For restaurant design, the Brasserie in Manhattan earned award medallions for the New York design firm of Diller & Scofidio. Runner-up Tsao & McKown was honored for its design of New York City's Métrazur Restaurant [May 2000, page 254], as was Parsons Fernandez-Casteleiro, for its design of Coup, also in New York City. The jury was composed of James S. Russell, of ARCHITECTURAL RECORD; Merrill Elam, of Scogin Elam & Bray; Will Bruder, of William P. Bruder, Architect; Chip Kidd, a book designer; Tucker Viemeister, of the multimedia company Razorfish; and Sarah Herda, director of the Storefront for Art and Architecture. Belmont Freeman, of Belmont Freeman Architects, headed the design awards committee for the Beard Foundation.

Transparency gets credit

Winners of the DuPont Benedictus Awards were announced at the AIA National Convention, highlighting a range of stunning applications of glass. Sponsored by DuPont, the AIA, and the Union Internationale des Architectes (UIA), the program is an annual international competition focused on laminated glass in architecture. The Audi Center in Ingolstadt, Germany, designed by Germany-based Fink + Jocher, and California House in Palo Alto, designed by Fougeron Architecture of San Francisco, took the highest awards. Eric Owen Moss, of Culver



You work so hard to be original, you'd be outraged if someone stole or copied your drawings. It's true of Autodesk® software, too. We work hard to develop the best design tools for you. And using an illegal copy is theft. But you can do something about it. Call 1-800-NO COPIES* or visit **www.autodesk.com/piracy** to report pirated Autodesk software. You'll feel a lot better.

autodesk

©2000 Autodesk, Inc. Autodesk and the Autodesk logo are registered trademarks of Autodesk, Inc. in the U.S. and other countries.
The Empire State Building design is a trademark of Empire State Building Company. All rights reserved. *All communications are completely confidential.

J. Windom Kimsey, AIA
Tate & Snyder Architects
McCarran International Airport, D Gates
Tate & Snyder Architects Design Studio
Clark County Regional Justice Center

"Within the span of a curve, you capture energy."

Windom Kimsey doesn't have to search to find inspiration for his ceilings. All he really has to do is look up. And soon, the sweeping curves and dramatic forms that infuse his designs begin to take shape. "When you can turn the ceiling into the feature, it gives you more ways to make the space exciting," he says. "Why not push the limits?"

Find out where the curves of our Drywall Suspension System can take *your* designs. Call us today at 1-800-USG-4YOU or visit our website: www.usg.com

USG CEILING SYSTEMS

Imagine The Upside.

© 1999 USG Corporation

CIRCLE 68 ON INQUIRY CARD

The Audi Center, Ingolstadt, Germany

City, Calif., was honored with a Special Recognition award for The Umbrella, an outdoor amphitheater in Culver City. Special recognition also went to Rafael Viñoly Architects for the Samsung Jong-Ro Building in Seoul; Arup Facade Engineering for the Corporation Street Bridge in Manchester, England; Marks Barfield Architects for the Millennium Wheel in London; and four others.

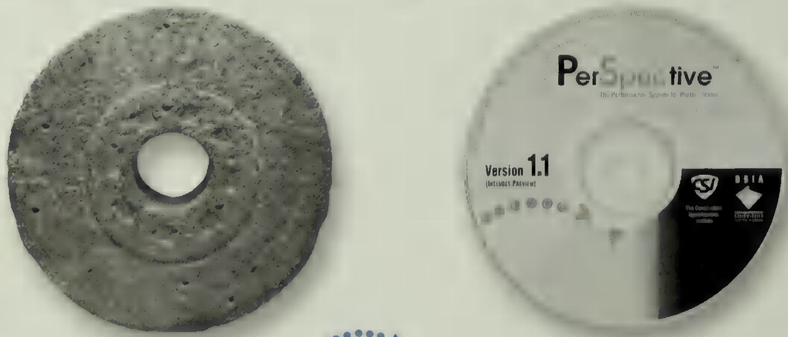
HUD/AIA awards

Housing Secretary Andrew Cuomo and the AIA announced the five winners of the Housing and Community Design Awards at the AIA National Convention. The winners in the category of Mixed-Use/Mixed-Income were First Ward Place in Charlotte, N.C., designed by Urban Design Associates in association with David Furman Architects and Fishero McGuire Krueger; and Vermont Village Plaza in Los Angeles, designed by Solomon E.T.C. Architecture and Urban Design. The winners in the category of Community Building by Design Award, which recognizes revitalized slum neighborhoods, were Orchard Gardens, Roxbury, Mass., designed by Domenech Hicks & Krockmalnic, Inc.; and Portland Public Market, Portland, Maine, designed by Hugh A. Boyd Architects and Orcutt Associates, Associate Architects. Finally, Leland Apartments, San Francisco, designed by Kwan Henmi Architecture/Planning, won the Alan J. Rothman Housing Accessibility Award, named in honor of Alan J. Rothman, HUD's late senior policy analyst on housing who devoted his life to issues of disability.

Orchard Gardens, Roxbury, Mass.

The American Academy of Arts and Letters Award

Winners of the architectural award from the American Academy of Arts and Letters were announced in May. They were selected by the 2000 Committee for Prizes in Architecture, consisting of Chairman Richard Meier, Henry N. Cobb, James Ingo Freed, Michael Graves, Steven Holl, Ada Louise Huxtable, and John M. Johansen. Toyo Ito received top billing with the Arnold W. Brunner Memorial Prize; secondary awards went to Will Bruder of William P. Bruder, Architect [April 1999, page 98] and Jesse Reiser + Nanako Umemeto [December 1999, page 118]. In addition to the awards, architect Steven Holl was inducted as a new member of the academy's main body of 250, and architects Zaha Hadid and Rem Koolhaas joined the ranks of honorary foreign members.



Don't reinvent the wheel...

...we've already smoothed out the bumps for you.

Do you chisel out your RFPs and proposals by hand every time?

Streamline the process using Uniformat and our master database of pre-formulated easy-to-edit statements. Our clear performance criteria, hard numbers, and phased substantiation requirements offer a smooth ride on your next design-build project.

The power and flexibility of a database, as easy to use as word processing.

The Construction Specifications Institute

DBIA

PerSpective™

The Performance System for Project Teams

A CSI/DBIA JOINT VENTURE PRODUCT

(PEAR)

For your 30-day free trial of PerSpective™, call toll-free 1.877.893.0896 or visit www.PerSpectiveNet.com

CD runs on Microsoft® Windows 95, 98, or NT

CIRCLE 77 ON INQUIRY CARD

arrival

00

KEILHAUER

Please contact Keilhauer for your nearest representative
1 800 724 5665

GREAT BUILDINGS DESERVE GREAT DOORS!

Building:
EMPLOYER'S MUTUAL INSURANCE
DES MOINES, IOWA

Architect:
BROOKS BORG SKILES

Main Contractor:
NEUMANN KIEWIT CONSTRUCTORS

Doors Specified:
CECO DOOR PRODUCTS

GREAT BUILDINGS DESERVE CECO DOORS.

Ceco Door Products
A United Dominion Company

Proving our leadership . . . everyday!

750 Old Hickory Boulevard • One Brentwood Commons, Suite 150 • Brentwood, TN 37027 • (615) 661-5030; FAX (615) [illegible] • www.cecodoor.com

CIRCLE 26 ON INQUIRY CARD

Go To WWW.architecturalrecord.co

Quick
Clicks

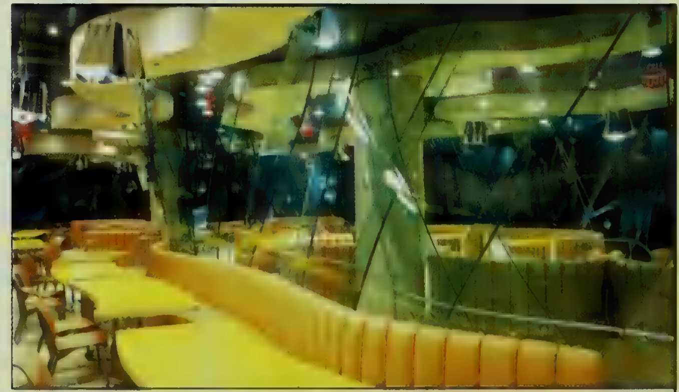
- PROJECTS
  - Learn more about projects featured in RECORD
- ABOUT RECORD
  - Subscribe
  - Submit a project
  - See the 2000 editorial calendar
  - Shop for reprints, books, and back issues
  - Index
  - E-mail us
- FEATURES
  - Business Week/ Architectural Record Awards
  - Green Architect
  - Digital Architect
- DIALOGUE
  - Submit news
  - Write letters to the editors
- CONTINUING EDUCATION
  - Continuing education articles
  - Self-report form
- RECRUITMENT
  - Employment opportunities
- ADVERTISER & PRODUCT INFO
  - Link directly to RECORD advertisers
- PROFESSIONAL DIRECTORIES
  - Add your company to this listing of architecture firms and consultants

LOG ON FOR 'FROM THE FIELD'

Get the skinny from the 'world of architecture' with up to the minute observations by RECORD editors from meetings, events, encounters and travels. New columns are added regularly. **Only on Architecturalrecord.com.**

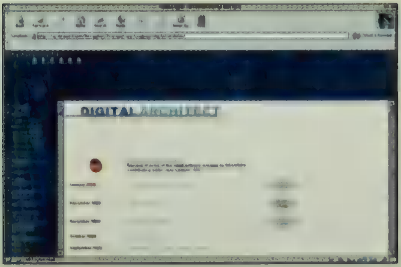
MEET JUNE PEOPLE AND PRODUCTS

CONNECT with the people and the products behind eight outstanding June projects: **Building Types Study: Office Buildings, and a portfolio of high profile projects** including **The Conde Nast Cafeteria, by Frank Gehry (below),** the Tate Modern and The Museum of Fine Arts.



CHECK OUT NEW 'GREEN' PRODUCTS

GREEN ARCHITECT takes you to a place where the world's a little greener. The 'Green' Products Guide is organized by division with product descriptions and links to manufacturer web sites. **New 'green' products are added each month.**



DIGITAL ARCHITECT: A/E/C 2000 PREVIEW

ZERO IN ON hot, new developments in CAD software, web tools and more happening at June A/E/C, **with a web-only vendor guide. PLUS 'IT as a Strategic Marketing Weapon' with online vendor list.** Past Digital Architect columns, digital product reviews and related Vendor Guides are just a click away.

CONNECT TO ADVERTISERS

Simply CLICK ADVERTISER & PRODUCT INFO to search by advertiser name or product type and link directly to their web sites.

OPPORTUNITY KNOCKS

CLICK ON RECRUITMENT to find career opportunities for architects and related professionals, from firms and universities nationwide.

GET CES CREDITS ONLINE

On architecturalrecord.com, you can read RECORD's continuing ed self study courses, do test questions and answers, fill out the self-report form and hit 'SEND' to file for CES credits. Find 75 courses, most qualifying for HSW credit.

CLICK SUBSCRIBE to order a new subscription, or renew one; for change of address requests or other customer service questions.

GO TO RECORD'S ONLINE SHOP to buy the 230 page volume *Modern American Houses: 40 Years of Record Houses* or *Record Houses* Collections. Order back issues and reprints. Or buy a *Record Houses* CD-Rom.

AVONITE®

Innovations in solid surfacing.

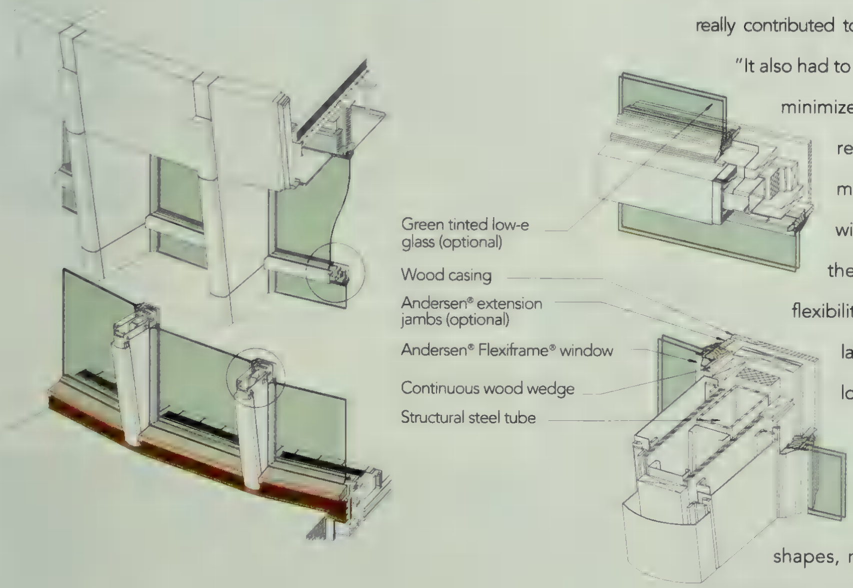
1-800-428-6648 / www.avonite.com

CIRCLE 21 ON INQUIRY CARD

[illegible] Corporation
[illegible]
Architects and Engineers:
[illegible]
[illegible]
Contractor: [illegible]
Company, St. Louis Park, MN
[illegible] Design:
[illegible] — Mpls., MN
[illegible]
[illegible] and
[illegible]
[illegible]
[illegible]

ARCHITECTURE ENLIGHTENED

ANDERSEN FLEXIBILITY HEIGHTENED


Green tinted low-e glass (optional)
Wood casing
Andersen® extension jambs (optional)
Andersen® Flexiframe® window
Continuous wood wedge
Structural steel tube

If the movement for daylighting needs a poster child, this newborn corporate headquarters gets our vote. "We wanted a window whose visible light transmittance really contributed to daylighting," said architect Peter Pfister. "It also had to have a reasonable shading coefficient to minimize solar heat gain, a low U-factor to reduce winter heat loss, and have minimal interior reflection. Andersen® windows gave us the right balance of all these factors. Andersen also gave us the flexibility to go from small punched windows to large units to a wall of windows in the lobby, all with one window line, one glazing and one responsible party," concluded Mr. Pfister. The next time you need standard or custom sizes, styles, shapes, many hardware and glazing options – imaginative, flexible window solutions that shine when it comes to daylighting – look to Andersen for bright ideas. **Get a CD-ROM portfolio of this and 160 more projects, and our catalog, by calling 1-800-426-7691 ref.# 3656.**

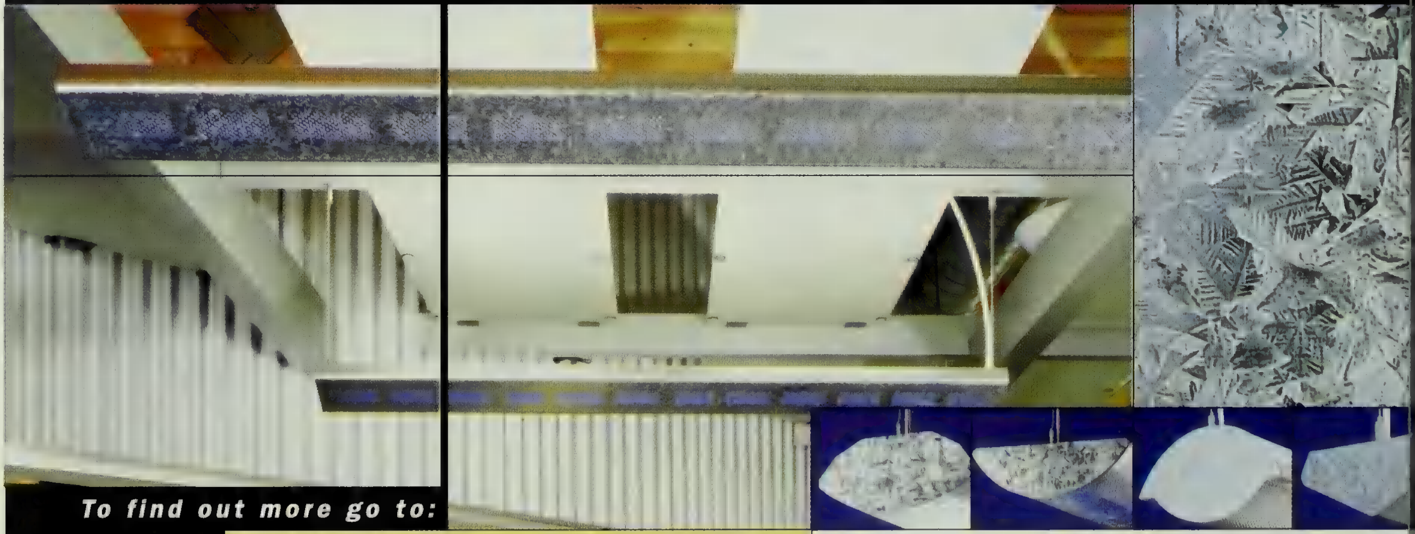
ANDERSEN®
COMMERCIAL

www.andersenwindows.com

CIRCLE 2 ON INQUIRY CARD

FINALLY

GALVANIZED FIXTURES



To find out more go to:

WWW.PRULITE.COM

When your design is something special your lighting fixtures shoul be too. That's the driving force behind our newest offering of indirect and direct/indirect luminaires from Prudential Lighting.

Offering finishes like large pattern galvanized steel and deep brushed stainless steel gives designers a new found freedom in lighting.

Prudential lighting

CIRCLE 60 ON INQUIRY CARD

1737 East 22nd Street · Los Angeles, CA 90058-0408 · 213.746.0360 fax: 213.746.8838

While the 2000 Olympics loom, Sydney gets reborn

Correspondent's File

By Anne Susskind

For the past six years, Australia's Olympic city has been remaking itself for the eyes of the world. New parks, stadiums, and hotels, clustered around a grand boulevard, are the focus of rejuvenation efforts. Even Sydney's oldest cathedral, designed by William Wardell in 1866, is at last getting its spires. Come September, all the hoardings and hammering will be over, the city will finally be cohesive again, and the results will be held up for international scrutiny.

The spotlight during the Games will be on Homebush Bay, the shiny new state-of-the-art sports complex built 11 miles west of Sydney on polluted land (remediation cost $150 million). The site has had several master plans, the most recent—by Harvard University professor and landscape architect George Hargreaves, an expert in working with degraded sites—regarded as a qualified success. Hargreaves was invited to Sydney in 1996 by the Olympic Coordination Authority to shed new light on what appeared to be a muddled arrangement of venues along a great central boulevard, or, as Hargreaves describes it, a "single void" 558 feet wide. The boulevard is meant to pull together the disparate structures and unite all the plazas into a space "as strong as the buildings," with consistent paving, street furniture, and lighting. The Olympic Boulevard, says Hargreaves, will allow for crowd movement and provide "an address" for significant buildings, such as the station, multiuse arena, superdome, stadium, and tennis center.

Hargreaves also planned five "green fingers"—rows of trees and vegetation running from the boulevard through to the surrounding parklands. These oases of nature are home to 160 bird species and two million new plants, including 65,000 new native trees.

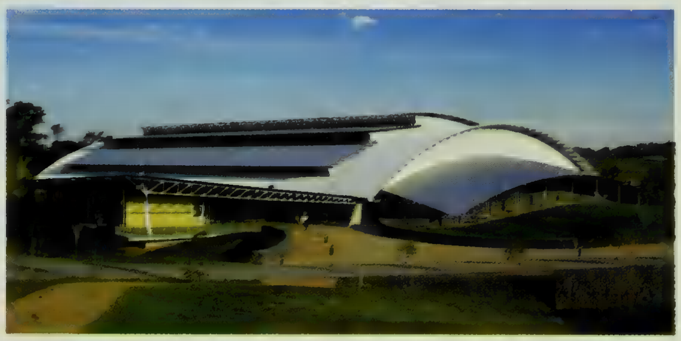
Lawrence Nield, of Bligh Voller Nield, who designed the tennis center and, together with the British firm Lobb Partnership, the main Olympic stadium, says Hargreaves' "great strong slash right across the site" creates legibility. But Philip Cox, designer of the aquatic center and the superdome, says the boulevard is "like a grand runway" without enough shade or sun protection.

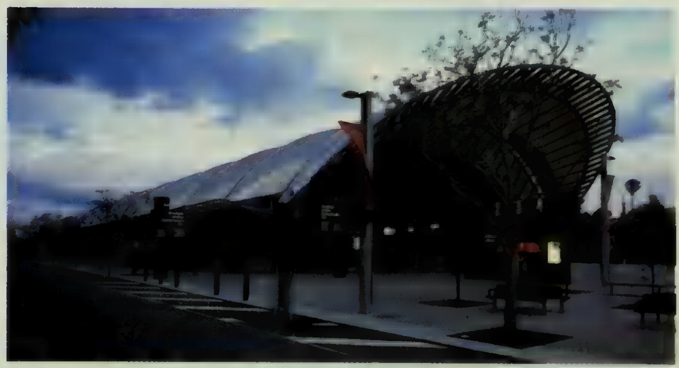
The bay's microclimate—incredibly hot and dry in summer, without the cooling breezes of the coast—will be somewhat offset by landscaping. Mature fig trees have been planted, as well as a profusion of fast-growing Australian trees and grasses. There are, however, some misgivings about the introduction of fast-growing nonnatives, such as the jacaranda and pear trees, outside the railway station. Says one critic, "They don't work with the light the way our trees do."

Of the whole site, Peter Stutchbury, designer of the archery arena, comments: "It does have an Australian quality, almost a temporal quality, with its lightweight materials and a lot of steel. It's almost a series of parasols around the place, like a cloud bank over the site, and we haven't seen that in any other Olympics." A highlight of the site is the railway station, designed by Ken Maher of the Hassell firm, which won the Royal Australian Institute of Architects' Sir Zelman Cowan award in 1998. Passengers arrive underground and come up into a great light hall, naturally ventilated. Another successful component of the design is Nield's tennis center stadium: Its strong, concrete conic shape provides a fitting conclusion to the Olympic boulevard.

Some of the smaller buildings are gems: the archery arena by Stutchbury & Pape, amenities blocks or toilet blocks by Durbach Block Murcutt, the ferry wharf by Alec Tzannes, and the white-water stadium by James Grose of Bligh Voller Nield.

Most arresting are the DBM amenities blocks: Bright red, yellow, and blue splashes of color, they have transparent roofs and look like nighttime lanterns, quite startling in an otherwise muted gray,





The Equestrian Centre by SJPH Design Partnership (top) and the award-winning Olympic Park Railway Station by Hassell Architects (bottom) are part of Sydney's rejuvenation effort.

Anne Susskind writes about architecture and urban design in Australia for The Bulletin/Newsweek *and other magazines.*

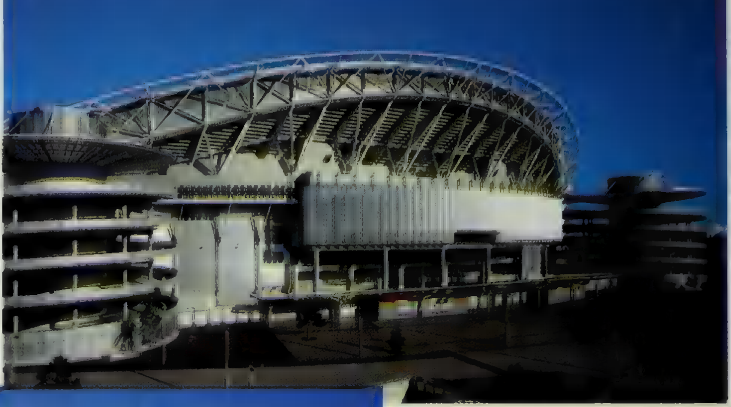
white, and steel Olympics. The pylons, the plaza's giant, birdlike solar-lighting poles, designed by Peter Tonkin of Tonkin Zulaikha, attract immediate attention.

Most of the other buildings are efficient and practical but too cautious to be inspiring. The main problem lies with the government's procurement method. For most major venues (excluding the railway station), the system was design and construct, with developer, architect, and builder coming as a team. Conspicuously missing from the list of participating architects are Glenn Murcutt, Harry Seidler, and Richard Leplastrier, widely recognized as among Australia's finest designers; their absence may be due to the fact that they refuse to cut corners or make compromises with developers.

Professor Leon van Schaik, RMIT's Dean of the Faculty of the Constructed Environment, says Sydney's "ho-hum" Olympic architecture is "an inevitable result of a catastrophic way of commissioning public works. . . . There are so many good architects in Sydney who've not had a chance . . . . These were never picked on the basis of design, always finance." Van Schaik describes the main Olympic stadium, called Stadium Australia, as "a yawn . . . very competent and all that, but it's not going to make it into the history books." Cox says it looks like a Pringle potato chip, does not break new ground structurally, and is not iconic.

"STADIUM AUSTRALIA IS A YAWN. . . . IT'S NOT GOING TO MAKE IT INTO THE HISTORY BOOKS."

But New South Wales government architect Chris Johnson counters that Homebush Bay excels environmentally, with solar energy, water recycling, and natural ventilation used wherever possible. The Olympics was never meant to be "overly design-driven," he says, adding that Montreal, one of the biggest design-driven Olympics, with very little private industry involvement, is reputedly still paying off its stadium with taxpayer money, 23 years later.



Stadium Australia (photos above), designed by Bligh Voller Nield and the UK's Lobb Partnership, seats more than 100,000 people, and is the Olympics centerpiece at the Homebush Bay site in Sydney.

Back in the city proper, not everything is perfect either, as the arbiters of taste sometimes go for the quick fix. But Sydney—always regarded as Melbourne's poor cousin in terms of design and style, reliant on its extraordinary natural setting to redeem its urban flaws—has definitely turned a corner.

In the last four years, the Sydney city council has spent $320 million on the city's rejuvenation and also set other measures in preparation for the Olympics. For example, developers who complete their hotels by June 30 have been allowed to construct bigger buildings proportionate to their sites.

The New South Wales government has spent around $2 billion, with a focus on Olympic facilities and transport. Recently completed is the eastern distributor, a link road connecting the harbor to the airport, taking traffic out of the CBD. There is a new railway line to Homebush Bay, and an airport line will open soon. Sydney's main airport has a new international terminal, designed by Woodhead International, and two new domestic terminals, one by Hassell and the other by Bligh Voller Nield.

In the CBD, one of the most welcome changes is underfoot: Granite has replaced the depressing asphalt of the pavement, and sidewalks have been widened, an invitation for dozens of trendy street cafes.

Also full of promise are the rows of elms, hoop pines, and crape myrtles, often planted already mature for immediate effect. There's a "family" of new street furniture designed by Philip Cox, in a dark bronze-colored stainless steel—bus shelters, phone booths, benches, flower and fruit stands, and information kiosks. While some mourn the former irregularity, particularly the bright wooden fruit barrows, the replacements are crisp and sanitary.

On the main thoroughfares, award-winning new street poles, called "Smartpoles," were designed by Alec Tzannes. They reduce clutter by combining street lights, traffic signals, street signs, parking signs, video cameras, electronic information, special-effects lighting, and decorative banners on one pole.

At the city's southern end, the transport hub of Railway Square has been rebuilt, its mess of bus stops transformed into a new "gateway," comprising skeletal-looking, metal-framed structures. Chris Johnson, whose office was responsible for the design, describes it as a bold addition to the city, but its reception by the Sydney media has been less kind, with one journalist likening it to "the contents of an unassembled Airfix kit dropped randomly on the ground."

The city's notorious "holes in the ground"—huge development sites standing vacant behind hoardings—have gone from 22 to 3. Several of the new towers have made serious attempts to be environmentally sound, with natural air-conditioning and aerial roof gardens.

The Sydney city council has introduced well-meaning legislation requiring all new high-rise buildings to be humanized at street level, with public space and platforms, landscaping, cafes, and shops. Some of the results are rather unfortunate, with podia-like dislocated add-ons and a skyscraper shooting out the center like some strange plant. Others are very handsome buildings, such as the tower at 363 George Street, designed by Denton

One more way to
build on our knowledge

Great Gypsum™!

Anything else is just ordinary gypsum board.

Gypsum board used to be perceived as just gypsum board. One brand being considered no more consistent in quality than the next. By investing in high-end technology, Celotex has changed that perception with a higher, more consistent quality, day-in, day-out. But, the quality doesn't begin and end on the job-site.

Celotex's reputation for **Quality Service** and maintaining excellent relationships with our customers is equally important. To further enhance service to our customers, we will increase our production capability by **60%** when we open our new State-of-the-Art gypsum plant in Carrollton, KY in June 2000...geographically **Improving Delivery** in the surrounding states for a long time to come.

For more information, call 1-800-CELOTEX, or visit us at www.celotex.com. "We're the company you can talk to."

Celotex

Build On Our Knowledge™

CEILING TILES / SHINGLES / GYPSUM BOARD / RIGID FOAM INSULATION

CIRCLE 27 ON INQUIRY CARD

© Celotex Corporation, 2/00

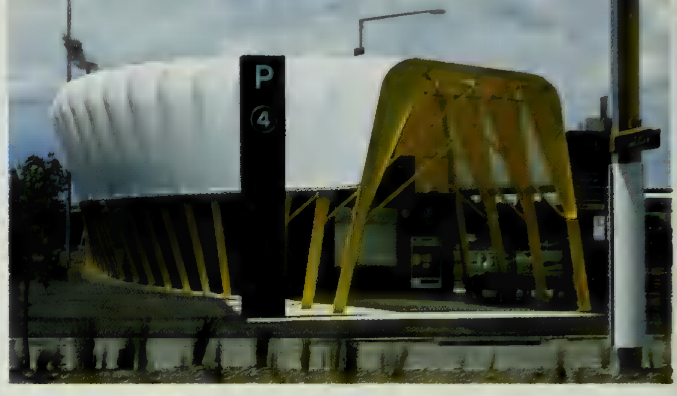
Corker Marshall's Richard Johnson and Jeff Walker. It has a large, light courtyard and cafe at ground level containing *Waterswing*, a mesmerizing stainless-steel sculpture that swings slowly and gently above a reflecting pool.

Taking shape in Macquarie Street are two curved glass towers, designed by Renzo Piano, buildings he says will "talk to" or "wave to" the Sydney Opera House, the "gentle lady" 2,600 feet down the road. Underneath, linking the two, will be another open space, a piazza covered by a column-free glass canopy held together by a "spiderweb" of stainless-steel cable stays.

TAKING SHAPE IN MACQUARIE ST. ARE TWO GLASS TOWERS, DESIGNED BY RENZO PIANO.

Sydney's grand old sandstone GPO has been renovated by restoration architects Clive Lucas Stapleton. Behind its immaculately restored facade, the historic public building now houses expensive boutiques and restaurants and has become a haven for wealthy shoppers. Soaring above, set back from Martin Place, is a new high-rise hotel designed by the Buchan Group.

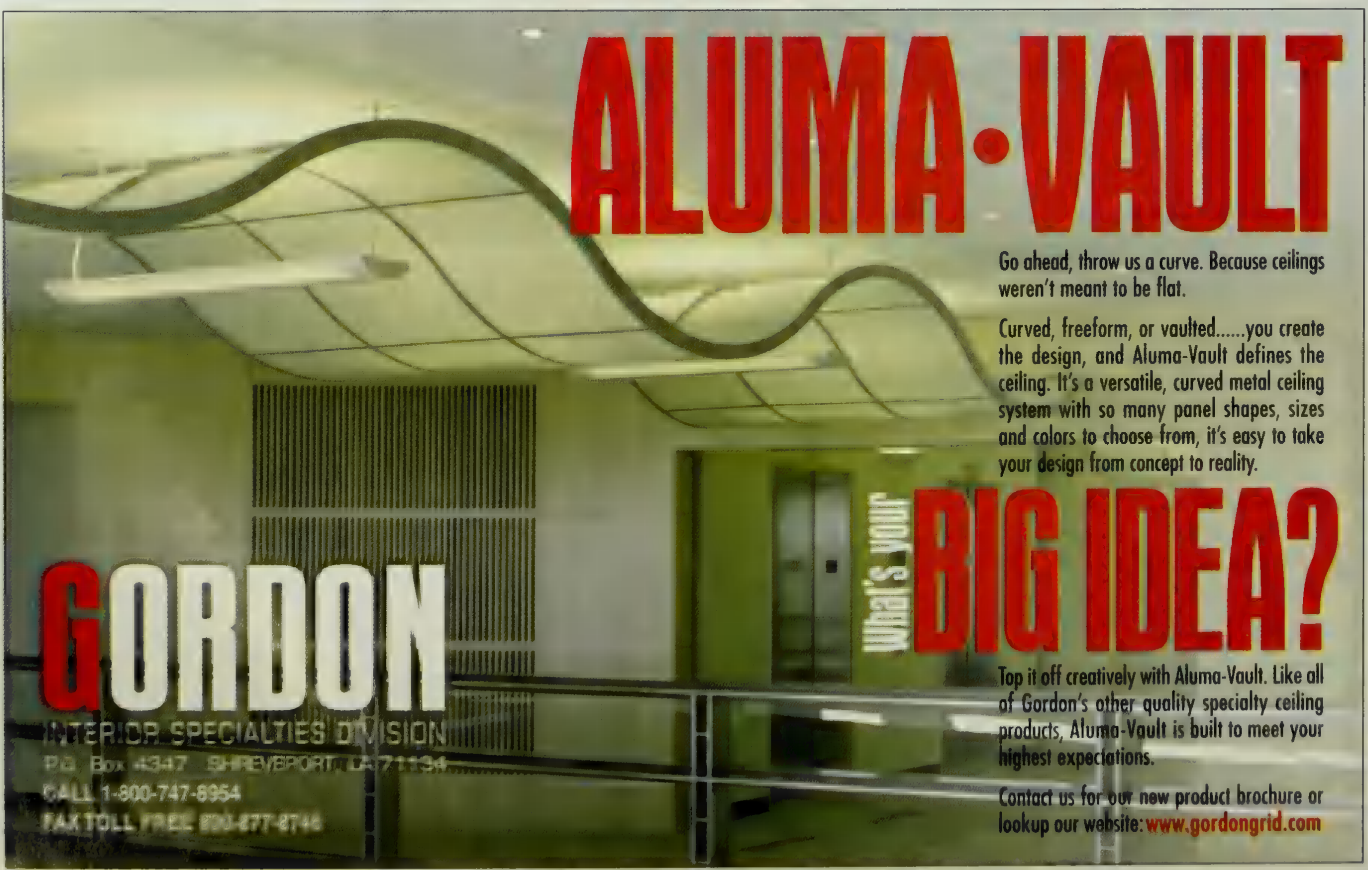
The plaza outside, Martin Place, runs across five central city blocks and is also undergoing a transformation. Repaved and cleared of much of its clutter (kiosks and stalls), it reveals the slope and topography of the city, creating unobstructed, sweeping views from the historic Houses of Parliament to the grand National Bank building.



A gem among the Olympic buildings: one of Durbach Block Murcutt's three amenities blocks.

Above all, the CBD is beginning to hum with residents (the population has gone from 7,000 to 20,000 in the last decade), housed in converted warehouses, converted office blocks, and many new residential towers. While most of the new apartment buildings are bland and ugly, Chris Johnson points out that they are generally a big step up on previous high-rise residential living—most have balconies.

People in search of an escape from the concrete have several choices: A new waterside development on the eastern side of Darling Harbour's, Cockle Bay, designed by American architect Eric Kuhne for Lend Lease, is a marked improvement on the crass development on the water's western side. Its downstairs restaurants have lush landscaping, and the structures themselves (while snidely described by one architect as decorated sheds) are whimsical, conical shapes tilted at odd angles.



ALUMA•VAULT

Go ahead, throw us a curve. Because ceilings weren't meant to be flat.

Curved, freeform, or vaulted......you create the design, and Aluma-Vault defines the ceiling. It's a versatile, curved metal ceiling system with so many panel shapes, sizes and colors to choose from, it's easy to take your design from concept to reality.

What's your BIG IDEA?

Top it off creatively with Aluma-Vault. Like all of Gordon's other quality specialty ceiling products, Aluma-Vault is built to meet your highest expectations.

Contact us for our new product brochure or lookup our website: www.gordongrid.com

GORDON
INTERIOR SPECIALTIES DIVISION
P.O. Box 4347 SHREVEPORT, LA 71134
CALL 1-800-747-8954
FAX TOLL FREE 800-877-8746

CIRCLE 78 ON INQUIRY CARD

Products:
EFCO TerraStile™ Door and Frame, Series 810 and 510 Fixed Windows, Series 3500 Sliding Windows, System 403 Storefront, Series 5600 Curtain Wall, and D-300 Doors

Building:
Golf World Resort and Convention Center, St. Augustine, FL

Architect:
Gould Evans Goodman Associates

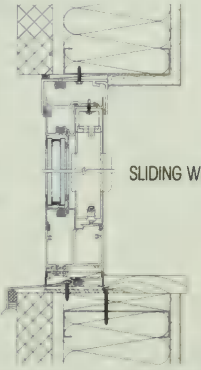
Erector:
Cartner Glass Systems, Inc.

COMPATIBLE

LOOK TO EFCO® FOR A COMPLETE LINE OF COMPATIBLE GLAZING SYSTEMS FROM A SINGLE SOURCE.

Many products, one manufacturer. It's the perfect way to ensure that all of your glazing systems will combine effortlessly.

With EFCO, you can choose from an extensive line, including windows, storefronts, entrances, and curtain walls. We'll custom-build your systems to coordinate flawlessly with each other—from matching paint colors and finishes to easy installation. And project coordination is easier too, since you're working with a single manufacturer.



Best of all, you don't have to sacrifice quality for compatibility. Every EFCO product will perform to the highest standards. To find out more, talk to your EFCO representative, call EFCO direct at 1-800-221-4169, or visit our Web site at www.efcocorp.com.

EFCO

WINDOWS
CURTAIN WALLS
ENTRANCES
STOREFRONTS

See us at CSI Booth 1207

CIRCLE 37 ON INQUIRY CARD

©1999 EFCO Corporation

Sydney's parks have also been upgraded in preparation for the Olympics, with new paving, lighting, plantings, and benches. The city council's biggest initiative, with Lawrence Nield as architect, is the merger of an old bowling green and two small parks to form Cook and Phillip Park. These approximately six acres of carefully landscaped grounds contain a civic square of black granite and are intended to be a forecourt for St. Mary's Cathedral. Under the square is a large, new indoor swimming pool. Architects are divided on its merits: Some say it has the makings of a great urban space; others find it is too busy and tries to do too many things—pretending to be a forecourt while actually serving as a roof with the protuberances of a restaurant and an entrance to the complex below.

Sydney's new $30 million Shooting Centre, by Gazzard Sheldon Architects, will incorporate shooting ranges as well as covered spectator facilities.

At the city's "northern gateway" (Sydney's triumvirate of Circular Quay, the Harbour Bridge, and the Opera House), the ferry wharf's old sheds are being pared back to the original structures, with some decorative metal edging on the roof "to give a floating feeling," says Chris Johnson. The work is being done by Lindsay and Kerry Clare in his office.

In front of the newly refurbished Customs House (a historic building gutted and refurbished by Tonkin Zulaikha and Jackson Teece Chesterman Willis) is a fine new plaza with the requisite coffee shops and restaurants outside, and exhibition spaces inside. The nearby East Circular Quay development, or overdevelopment, is now finished. Known as "the Toaster," it blocks the view of the Sydney Opera House. As Sydney tries to make the best of it, a grand new colonnade underneath, designed by Andrew Andersons of Peddle Thorp and Walker, goes a long way toward redeeming the complex.

With all the new development, the city has undergone "an urban renaissance," according to Chris Johnson. "Just as Barcelona was seen by the world as emerging into a new urbanity at the time of the 1992 Olympics, so too is Sydney emerging into a new phase in its history at the time of the 2000 Olympics.

"The city seems to have passed a threshold in moving from one of the most spread-out suburban cities to a more cosmopolitan, denser living style . . . . [It is] a bustling people place." If there were prizes for trying, Sydney would be first in line. ■

Green Solutions

DecorCable Innovations is proud to introduce the new Jakob INOX LINE GreenSystem that is specifically designed for vertical plantscapes and outdoor greening projects.

Whether classic or avant-garde, our wire rope and connector products represent the state-of-the-art in all architectural styles. Ask for a copy of the Jakob INOX LINE G1 catalog.

DÉCOR CABLE INNOVATIONS

DécorCable Innovations, LLC
660 West Randolph St.
Chicago, IL 60661
Tel 312.474.1100
1-800.444.6271
Fax 312.474.1789
E-mail sales@decorcable.com
Website: www.decorcable.com

CIRCLE 96 ON INQUIRY CARD

WHY WAYNE COUNTY'S DETROIT METRO AIRPORT RELIES ON SLOAN FLUSHOMETERS

Over 3000 flushes in an eight-hour period means up to 270,000 flushes in a month! That's why Wayne County's, mile-long Detroit Metro Airport relied on Sloan Valve Company's Optima Plus® ADA compliant Flushometers, for a major retrofit. According to Pat Territo, Plumbing Foreman and a Sloan Valve customer for 40 years, "The battery-powered Optima Plus was a clear winner for the more than 3 million customers we serve per month."

"One portion of the airport may have passengers deplaning and heading for the restrooms, while another has no activity for hours. We needed a reliable flush valve for this project. Over 700 Sloan Optima Plus Flushometers were chosen."

"Sloan's Dual Filtered By-Pass® was an important consideration because it handles chemically harsh and dirty water conditions. This helps reduce our maintenance and downtime costs. In addition, Sloan Optima Plus features a low battery flashing LED to allow ample time to replace the batteries," Territo said.

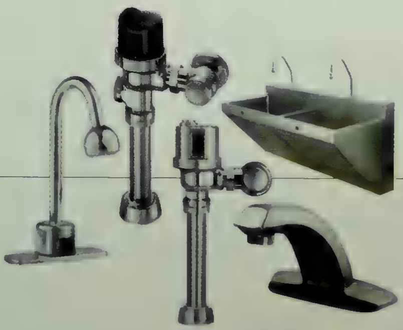
The Optima Plus battery powered electronics make retrofit conversion and maintenance easy. The metal cover model which was chosen for the project is built for high use and abuse in high-traffic public restrooms. Additional features that Optima Plus offers include:

- *Bak-Chek® Control Stop to help protect against pressure losses under high volume use.*
- *V-600-A Vacuum Breakers to handle high back pressures in low water consumption plumbing.*

Detroit Metro has over 100 public and employee restrooms with Sloan Optima Plus Flushometers.

IF DETROIT METRO AIRPORT RELIES ON SLOAN, SHOULDN'T YOU?...Call today!

Learn why Detroit Metro uses Sloan's Flushometers and why more airports rely on the performance of Sloan. Call **800-745-0800**, or circle the number below for a copy of our full-line catalog/CD-ROM.



SLOAN®

Sloan Valve Company
10500 Seymour Avenue ▪ Franklin Park, IL 60131
Phone: 800-745-0800 ▪ Fax: 800-447-8329
www.sloanvalve.com

CIRCLE 65 ON INQUIRY CARD

The right door can make any place more inviting.

Now, think what our custom doors could do for your home. A door with no boundaries, save those of your imagination. A door handcrafted in the Old World style from the most beautiful hard woods available: Genuine Mahogany, Cherry, Maple, Walnut and Northern Red Oak. International Wood Products can deliver this door. All the way from your mind straight to your dream home. 1-800-877-9482 ext IWP2 www.iwpdoor.com

IWP

CIRCLE 42 ON INQUIRY CARD

Multiple personalities: how firms with multiple offices handle identity, culture, and ownership

Practice Matters

By Kira L. Gould

Advances in technology have made it easy for people in different locations to share resources and work together. Nevertheless, there are still management hurdles for firms with more than one office.

Today, firms take a variety of approaches to coordinating the activities in their different offices. Many try to cultivate a "one-firm" image. The idea is that a client is hiring the same firm—people, expertise, and resources—no matter which office they work with. Architecture giant Gensler has honed this approach (sometimes called the Gensler model) and set the standard for brand building in the industry. But despite the advantages of having a recognizable name, some firms feel that the approach is too monolithic. They avoid a national or international profile that could make it difficult to win important local and regional work.

Some firms develop a network: Each office creates its own profile within the framework of a firm vision. An office in one city may grow faster, diversify, specialize more dramatically, or cultivate a stronger design orientation than those located elsewhere. Many firm managers see this kind of specialization as a way for the organization to capitalize on the strengths of different partners. They also note that the network approach allows offices to take advantage of local market conditions. There are risks, however, the most obvious being a disjointed identity. For example, when a firm has offices of dramatically different sizes, their client bases may be different. A larger office may have several national clients, causing the firm as a whole to project a national-market image. Local or regional clients of a smaller office in the same firm might be concerned that the firm's focus on national clients could take precedence over their needs.

Kira L. Gould is a (telecommuting) communications associate with Gould Evans Affiliates, an architecture firm with offices located throughout the U.S.

Ownership structure

Actual ownership at the local level is not typically a priority for "one-firm firms"; instead, they tend to value psychological investment and leadership. Interior Architecture partners David Mourning and Roger Vorhees, who oversee 320 people in 14 offices, explain: At IA, owners have a stake in the overall company, not solely in the office in which they work. "We encourage firm ownership and offer office-performance-based incentives, but this is not a franchise," Mourning says. "We would not be as effective with local ownership."

For firms whose offices operate more independently, local ownership is more common. Though they may depend on firmwide resources, the various offices may specialize in different areas and even have different names. With this network approach, local ownership is often emphasized as a way of solidifying the firm's commitment to people and institutions in its particular community.

The growth of a firm can be idiosyncratic. Over time, Bohlin Cywinski Jackson developed three offices in Pennsylvania and one in Seattle (opened to work on the Bill Gates compound in a joint venture with local architect Jim Cutler), with a total of 100 people. Managing partner Frank Grauman says the firm never intended to stay in Wilkes-Barre, but that office has turned out to be the headquarters from which regional and national work is marketed. And the Seattle office could have closed after the Gates project, but timely new work sealed its strong future.

Wilson Pollock, president of ADD, oversees offices in Cambridge, Mass.; San Francisco; and Miami. Cambridge came first, and the other offices were started by other firm leaders who wanted to move. ADD maintains a firm apartment in each city and routinely shares training teams, human resources managers, and marketing people on a firmwide basis.

Another successful network-based collaboration can be found at Leo A. Daly, an 85-year-old A/E firm with 800 people in 15 offices. Most of these were started by individuals from other Daly offices who typically modeled new locations on the ones they had left. Charles Dalluge, managing principal of the Washington office, says both the leadership of the individual offices and the particularities of the markets maintain the firm's diversity. Taylor Armstrong, managing principal of the Dallas office, agrees: "Our office got into hospitality because the market was there and we had someone who was good at it. It's great to have the flexibility that comes from allowing each office to create its own profile."

A firm's philosophy as the glue

Often, it is the ideas behind the architecture that keep a firm unified. Ed Rubin, a partner with Esherick Holmes Dodge Davis, which runs a 70-person office in San Francisco and a 14-person office in Chicago, says that his firm's philosophy of architecture sets EHDD apart and keeps its West Coast and Midwestern offices in sync. "We have an intellectual approach that is the backbone of the firm," he says, "and Marc L'Italien, who's running the Chicago office, is no less committed to that approach than those of us in California." The firm was founded on the belief that each project must be approached on an entirely individual basis and must draw significant cues from the region. "Thinking regionally has always been important to us," says Rubin, "and we think it's even more so in the context of increasing globalism. We see this as an honest, intellectual approach geared to the needs of the client, and a commitment to that approach is at the heart of our firm's identity."

For A/E firms, the philosophy of how architects and engineers work together can foster unity. Steven Einhorn, founding partner of Einhorn Yaffee Prescott, which has 550 people in seven offices, says, "We want to make traditional buildings more responsive to technology and technology buildings more human." He believes that EYP is set apart not only by this vision but also by the fact that it is shared by the entire firm. ■

WE'VE GOT A LOT IN STORE

SKYLIGHTS
Mall of Louisiana / Crawford McWilliams Hatcher Architects, Inc.

At The Vistawall Group, we've helped create major malls throughout the country. Talk about store credit.

From our curtainwall and skylights to our custom windows and doors, our products enhance some of the nation's finest meccas of merchandise.

We're your single source supplier: designing, engineering and manufacturing custom products for everything from major shopping and retail centers to the corner convenience market.

The Vistawall Group. We've got a lot in store.

THE VISTAWALL GROUP
BUTLER MANUFACTURING COMPANY

800-869-4567
fax: (972) 551-6264
http:\\www.vistawall.com

THE VISTAWALL GROUP
BUTLER MANUFACTURING COMPANY

VISTAWALL ARCHITECTURAL PRODUCTS
MODULINE WINDOW SYSTEMS
NATURALITE SKYLIGHT SYSTEMS
SKYWALL TRANSLUCENT SYSTEMS

CIRCLE 70 ON INQUIRY CARD

Architecture and ethics: Stanley Tigerman, FAIA speaks his mind

Critique

Interview by Andrea O. Dean

Six years ago, during the fourth decade of his architectural career, Stanley Tigerman, FAIA, *joined interior designer Eva Maddox to found Archeworks, an alternative design school in Chicago where students learn by doing good: creating projects for the homeless, the disabled, the poor, and the elderly.*

Tigerman's approach to architecture these days is reminiscent of the wise old Buddhist who forsakes worldly concerns to concentrate on spiritual matters: for although Tigerman still runs a successful Chicago firm with his partner and wife, Margaret McCurry, FAIA, *his focus at Archeworks and in practice is on the ethical and moral aspects of architecture.* RECORD *began a recent conversation with Tigerman asking the obvious: Why ethics?*

Tigerman: How else do you spend 50-plus years in the field and feel a sense of accomplishment? Part of it is that I think of architecture as having four parts. In reverse order of their interest to me, they are: the business of architecture, the profession of architecture, the art of architecture, and the discipline of architecture.

The business of architecture has never resonated for me as a life's work. You have to make a profit, pay employees, turn the lights on. I see that as just something you have to do. Marketing drives me crazy. The reason architecture is a profession at all is that it's not wholly for profit, because the contractor and developer, if left to their own devices, just want to sell the goddamned thing at a profit. If the architect is seduced and becomes a party to this and starts marketing and believing architecture is just a business, then you've got a serious problem.

RECORD: *What's wrong with your second least favorite aspect of architecture—the profession of architecture?*

Tigerman: It means the AIA, not my favorite organization on the planet. In the days when the AIA had an ethics clause, they opposed one architect supplanting another. Now everyone does it, and the AIA's main concern is the business of architecture. You only have to read the offerings of an AIA convention: Most of it is about marketing. Many years ago at Columbia, they had a questionnaire for incoming architecture students: (1) Would you design a weekend place for the Cuban dictator Battista? (2) Would you design urban housing at a higher density than you think correct? (3) Would you design a facility used for evil purposes? I think the AIA today would say yes to all three. It has done nothing to make me not believe this. Because it represents the breadth of its constituency and is dependent on dues, it is willing to diminish the nobler sides of this field.

RECORD: *What about the art of architecture? Why isn't it higher on your list?*

Tigerman: I find the art of architecture a problem because it has always been couched in movements, whether it's the International Style, Postmodernism, Deconstructivism, whatever. These movements are for the few, not the many. They are represented by such publications as Cynthia Davidson's *ANY* and MIT Press' *Assemblage.* It can be said, sarcastically of course—but it's true—that the same 37 people read both, because the publications are basically unreadable. Under the rubric of art, architecture becomes increasingly elitist, for the few.

RECORD: *So we come to the discipline of architecture, which holds the place of honor in your architectural hierarchy. What makes it so noble in your view?*

Tigerman: A discipline is like a monastic pursuit, something you're passionate about. When you spend your whole life as an architect, you don't like seeing that life diminished by professional concerns, concerns about returns. Do you remember John Entenza

Archeworks, Tigerman's alternative design school, was built on land donated by Urban Innovations, a private real-estate management firm. The building sits beneath the Ohio Feeder Ramp, one of the main arteries into downtown Chicago.

[1905–84]? As editor of *Arts and Architecture* magazine, he was the first to present the work of Charles Eames, Paul Rudolph, and others. John once introduced Mies van der Rohe to a Chicago audience as someone who had to will his buildings into existence. In 1949 in Chicago, they had a hell of a time financing 860 and 880 Lakeshore Drive. The buildings looked like skeletons. There was bravery on the developer's part. In order to will something into existence, I think you have to have a deep, resonant core as an architect. That core is rooted in philosophy and theology but also in morality and ethics. Mies didn't finish grammar school. He was the son of a brick mason. But by the time he left the Third Reich he had a library of 3,000 books. The government of the Third Reich allowed him to take only 22 volumes to the United States. He chose serious books, St. Augustine on faith and St. Aquinas on interpretation. He had an inspired core; one felt it in his presence. Do you think he marketed or was interested in the profession of architecture? Ultimately, Mies was persistent about the morality of the thing. For me at least, if architecture doesn't have that, what's the point?

RECORD: *You have equated ethics in architecture with craft, with building well, and you've expressed outrage at current building practices. Tell us about it.*
Tigerman: Morality and ethics go back to craft, to making things well. After all, firmness, commodity, and delight were Vitruvius' three cornerstones of architecture. The problem of today's cheap construction can be traced back to people like Charles Moore, who was a very dear man but destructive, because he kept saying things like, "You only need two-by-four and drywall." First of all, two-by-four is a problem because we've never reforested properly, so all wood—including Douglas fir structural timber—is green and shrinks. When gravity takes over, it shows up on the facing, which is drywall and it cracks. If you build out of crappy materials, it won't last. Everything today is about thinner and thinner materials. Think of the problems: thermal penetration, water penetration. Here in Chicago at Watertower Place, the toilet-room marble panels are flying off the building because they were attached with carbon steel clips that have rusted out.

Spaces within Archeworks serve a variety of functions, such as this lecture area and cafe (below), complete with audiovisual equipment, and the "Archebar," (above) which serves as both a casual meeting area and workspace.

There are two ways to build: You can build a box out of fabulous materials or deconstruct it and produce a zillion surfaces. To build the latter with the same dollars, you have to use lesser materials. But now the cunning developer says, "Ah, the way to do it is to build the box with cruddy materials."

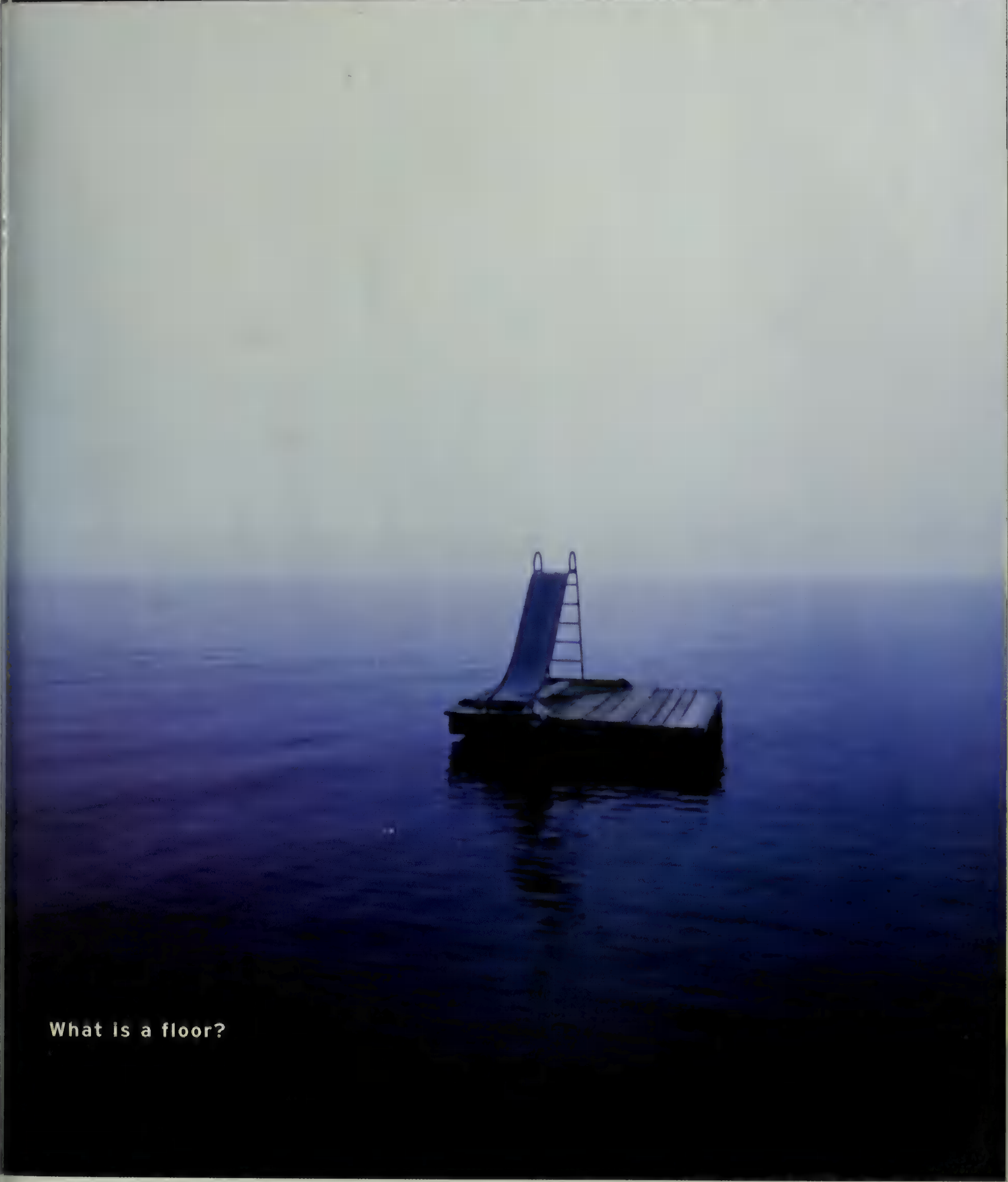
RECORD: *Have you applied the principles you've been talking about to Archeworks?*
Tigerman: What Archeworks is about is producing very good design in the context of social needs. If you're poor or disabled, you actually need things to be built better than if you're privileged.

Our interns [students] produce a project during one academic year. We're trying to get something done. One of our teams made a head pointer, which is now on the market, for cerebral palsy victims to operate computer keyboards and get a job. These instruments are usually weighty and cumbersome; the head pointer our team designed is 20 times lighter than the prototype and beautiful. Another team developed a device for people with AIDS to keep their many medications straight. Still another designed a Web site for local 5th graders that gives parents, children, teachers, and community members access to one other.

Archeworks is a one-year post-professional program. About a third of interns are architects; another third are designers of some stripe; another third are "other." We've had teachers, historians, a lawyer, a physical scientist, the vice president of a Singapore bank.

One of the things we wanted to do with Archeworks was to break down barriers between the academy and practice and between design disciplines—interior design, lighting design, industrial design, planning, landscape design. You know that architects mock interior decorators and designers. And they're never taken to task for it. That sense of entitlement is a problem. Our interns work in multidisciplinary teams on a project. There's no team leader. In a way, Archeworks is like the Bauhaus; in a way, it's like Andy Warhol's Factory.

For me, Archeworks is also about giving back. It's clearly the most important thing I've ever done. ■



www.annsacks.com 1+800+969+5217

ANN SACKS

tile stone plumbing

CIRCLE 20 ON INQUIRY CARD

Need solutions to your technical problems? Get advice from a friend.

"When architects and contractors have questions, they need answers right away. We take pride in being responsive to callers and getting them the answers they need when they need them. Even after hours, technical information is still available via our web site. Solving problems and helping people do their jobs better is what friendship in the business world is all about."

—Mark Chapman, Lisa Roberts, Bob Ek
Technical Service Team

The combination of state-of-the-art technology and unmatched knowledge and experience make National Gypsum technical managers the best in the industry. Because at National Gypsum, we all believe that nothing is more important than pleasing our customers.

For technical information
Monday through Friday
8:00 a.m. to 4:45 p.m. ET call:

800.NATIONAL *Phone*
800.FAX-NGC1 *Fax*

National Gypsum
COMPANY

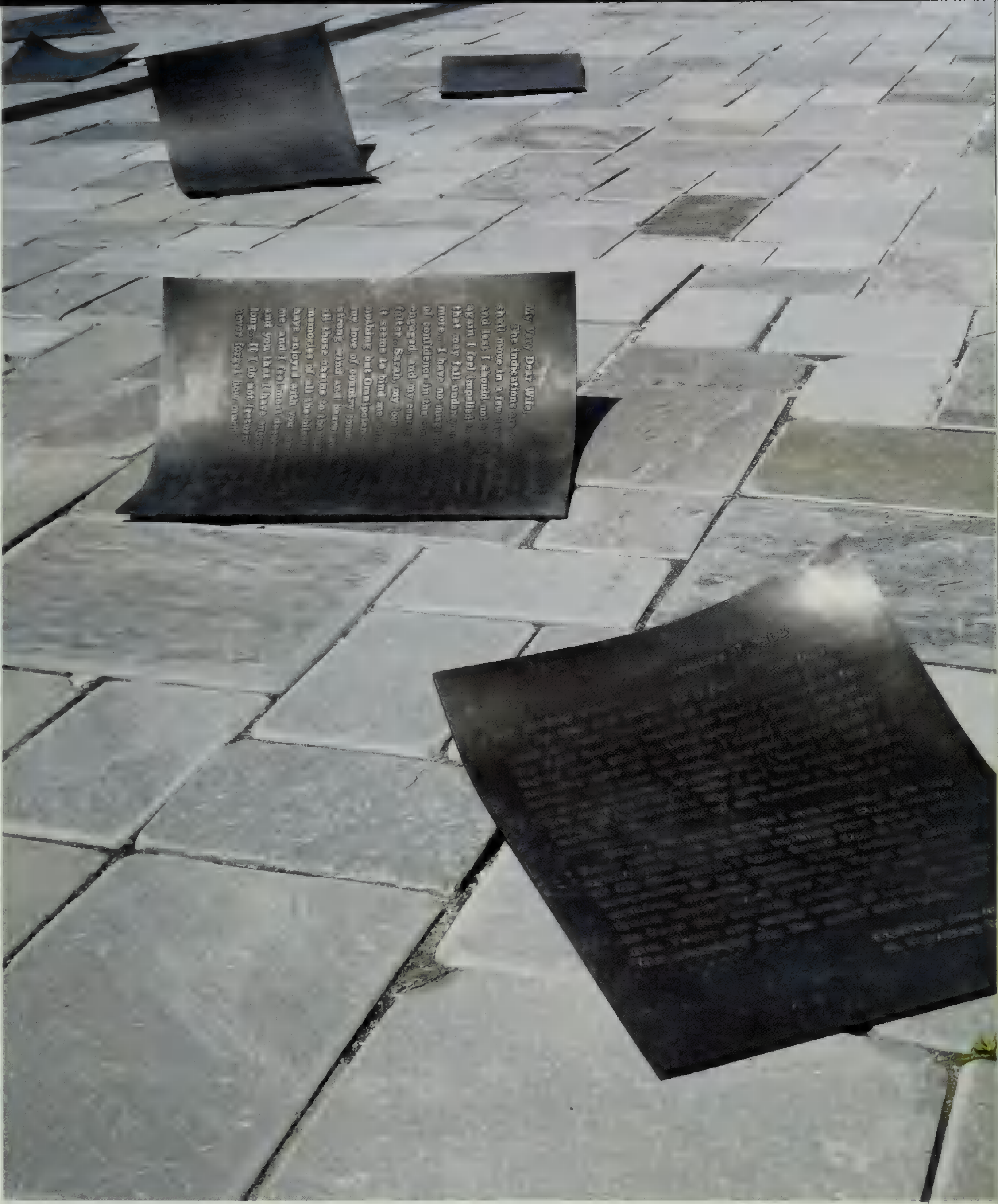
Friends You Can Call On.

2001 Rexford Road
Charlotte, NC 28211
704.365.7300

www.nationalgypsum.com
techservice@nationalgypsum.com

CIRCLE 55 ON INQUIRY CARD

Snapshot



By Ingrid Whitehead

Remembering the soldiers, in their own words

"Dear Mother: Even the trenches can be beautiful when they are trimmed with flowers, and the barbed wire forms a trellis for rambling vines, and shelter for innumerable thrushes and other songsters—one explanation, no doubt, of why the cats have a penchant for No-Man's-Land."
—Quincy Sharpe Mills, June 18, 1918

Romance and the military may not be synonymous in most people's minds, but according to architect James Cutler, it's not out of the question in Norfolk, Va. The military town that awarded the design of the Armed Forces Memorial to the Seattle architect and his collaborator, ceramic artist Maggie Smith, saw fit to allow the designer and artist to create a sculpture "garden" dedicated to the personal feelings and emotions of those who died fighting.

Like Maya Linn's Vietnam Veteran's memorial in Washington, D.C., the Norfolk memorial isn't the usual. "It's not a heroic statue," says Cutler, "it's not a triumphant arch. It's a way to commemorate the individuals who

Letters from the Revolutionary War, the War of 1812, the Civil War, World Wars I and II, Korea, and Vietnam were included in the Norfolk Armed Forces Memorial, including one from a woman who fought in the Civil War by pretending to be a man. The site, bordered by water on two sides, gives people a place to read and reflect on the words of the fallen soldiers.

fought and died in wars, by using their words."

Twenty bronze letters, written by servicemen and women who died during U.S.-participated wars, are "scattered" across the 160 sq. foot site. Each letter (including the excerpt on the preceding page) was sent from the battlefield to a loved one in the States shortly before the writer was killed. Like a detective, Smith did the research, discovering at least 100 letters, editing and narrowing them down to 30 with Cutler, and letting the client (the city of Norfolk) cull that group to the final 20.

"We wanted the site to have some sense of solemnity and permanence," says Cutler, "but we also wanted to give it an ephemeral quality—the sense that these letters were blowing in the wind, on an island."

Blowing in the wind, but readable. Cutler and Smith started by using materials such as weathered stone on the site, which is part of a pier front that runs the full length of Town Point Park (the original fort in this park was built by the British in the 1600s).

Cutler and Smith then went through the intricate process of creating the bronze letters, beginning with paper, moving to ⅓ scale wax models, creating 33- by 27-inch rubber molds, and using wax, plaster, rubber, and finally bronze to create the missives, which weigh anywhere from 60 to 70 lbs. each. "Figuring out how to do it was a challenge. Thanks to the technical expertise of the Walla Walla foundry in Washington, the sculpturing process was a success."

Stainless steel angle irons driven a foot into the ground hold the bronze letters in place. "We went about it in a very precise way," says Smith. "but I think the memorial captures something less precise—the personal emotions of the soldiers who wrote the letters." Says Cutler, "We've sat and watched people's reactions. They see there are words on the sculptures, they stop to read them, and they linger, with tears in their eyes, to read them all." ■

WILL THE **REAL** 100% RUBBER COVE BASE
PLEASE RAISE YOUR HAND.

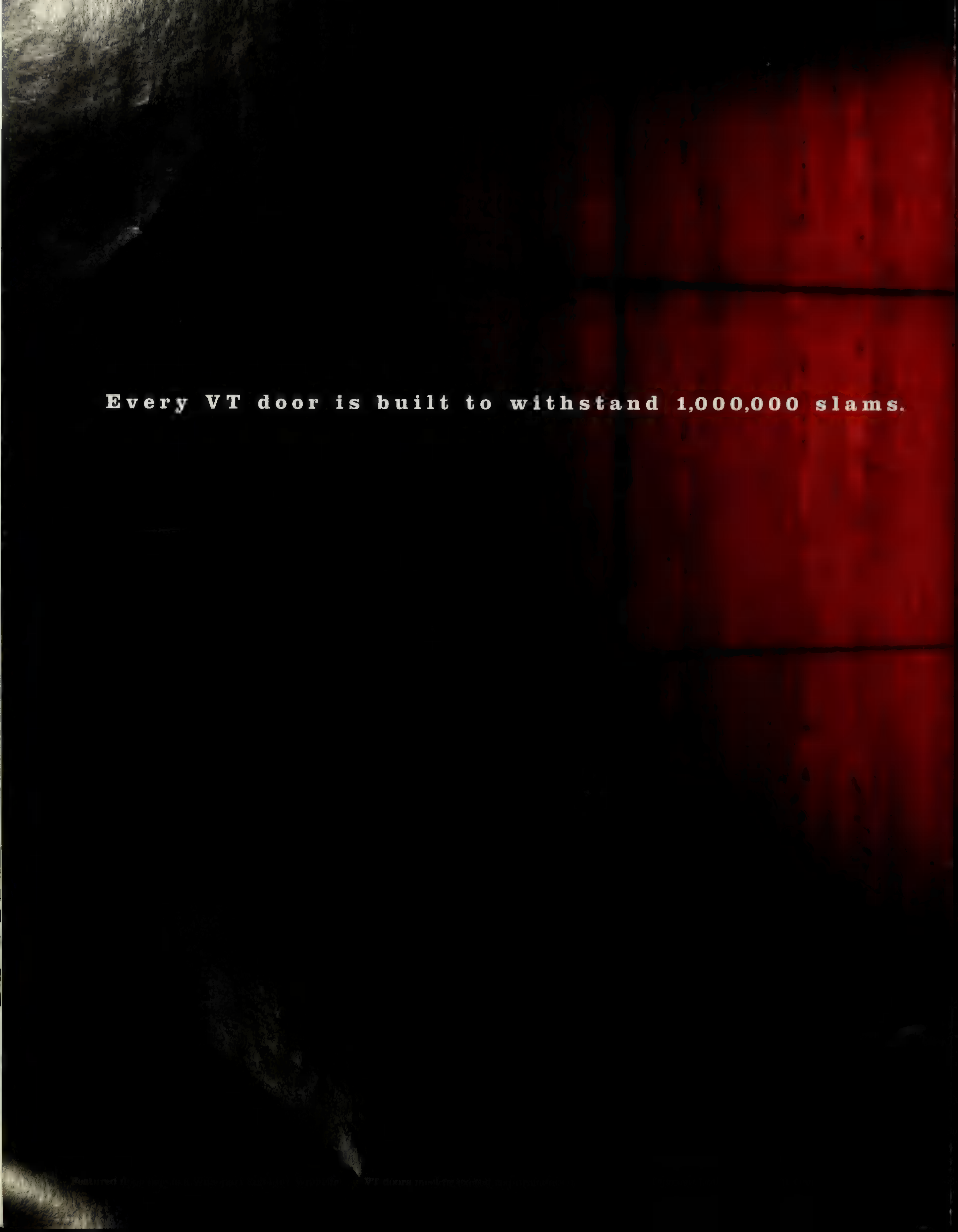
Roppe Corporation 1602 N. Union Street, Box 1158 Fostoria, Ohio 44830-1158 USA.
800-537-9527 / 419-435-8546 Fax: 419-435-1056 internet: www.roppe.com
e-mail: sales@roppe.com For free samples call toll free 1-877-SAMPLE-4

Roppe

Some "rubber" base products are up to 97% vinyl. But Roppe real Rubber Wall Base (type TS) is 100% vulcanized rubber. It won't shrink and doesn't need to be acclimated to building conditions prior to installation. So you can use it with confidence.

Rely on Roppe rubber base for years of worry-free wear. Because nothing performs like rubber. And nobody knows rubber like Roppe.

CIRCLE 62 ON INQUIRY CARD



Featured [illegible] VT doors [illegible]

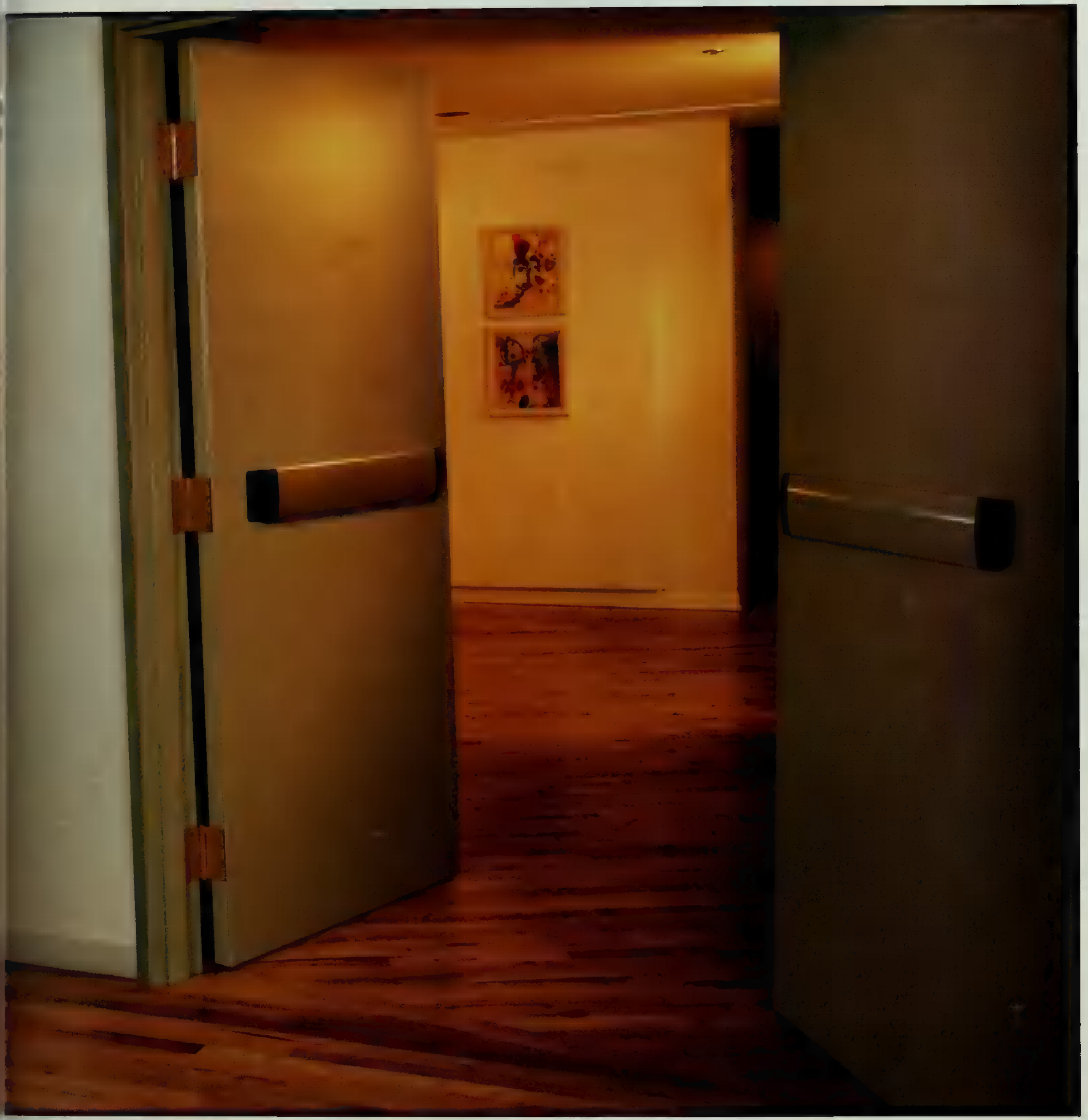
Beautiful. Dependable. Genuine. And unlike so many other things in this world, each one comes with a lifetime guarantee. VT decorative laminate and wood veneer doors. For more information, call 1-800-827-1615 ext. 210, log on to www.vtindustries.com, or e-mail door_info@vtindustries.com.

VT INDUSTRIES Architectural Wood Doors
CIRCLE 14 ON INQUIRY CARD

BOLD STYLE. MINIMAL LINES. INN

INTRODUCING **INPACT**™ Sometimes the real work of art isn't on the wall. It's on the door. That's the case with Von Duprin's new streamlined *INPACT* recessed exit device. *INPACT* is fully integrated within a door and combines a clean, tasteful appearance with Von Dup unmatched standards of reliabilit durability. Available in a variety finishes, *INPACT* is adaptable to virtuall application, from healthcare facilities schools, hotels, office buildings, even muse

ATIVE FORM. (NO, NO, LOOK AT THE DOOR.)



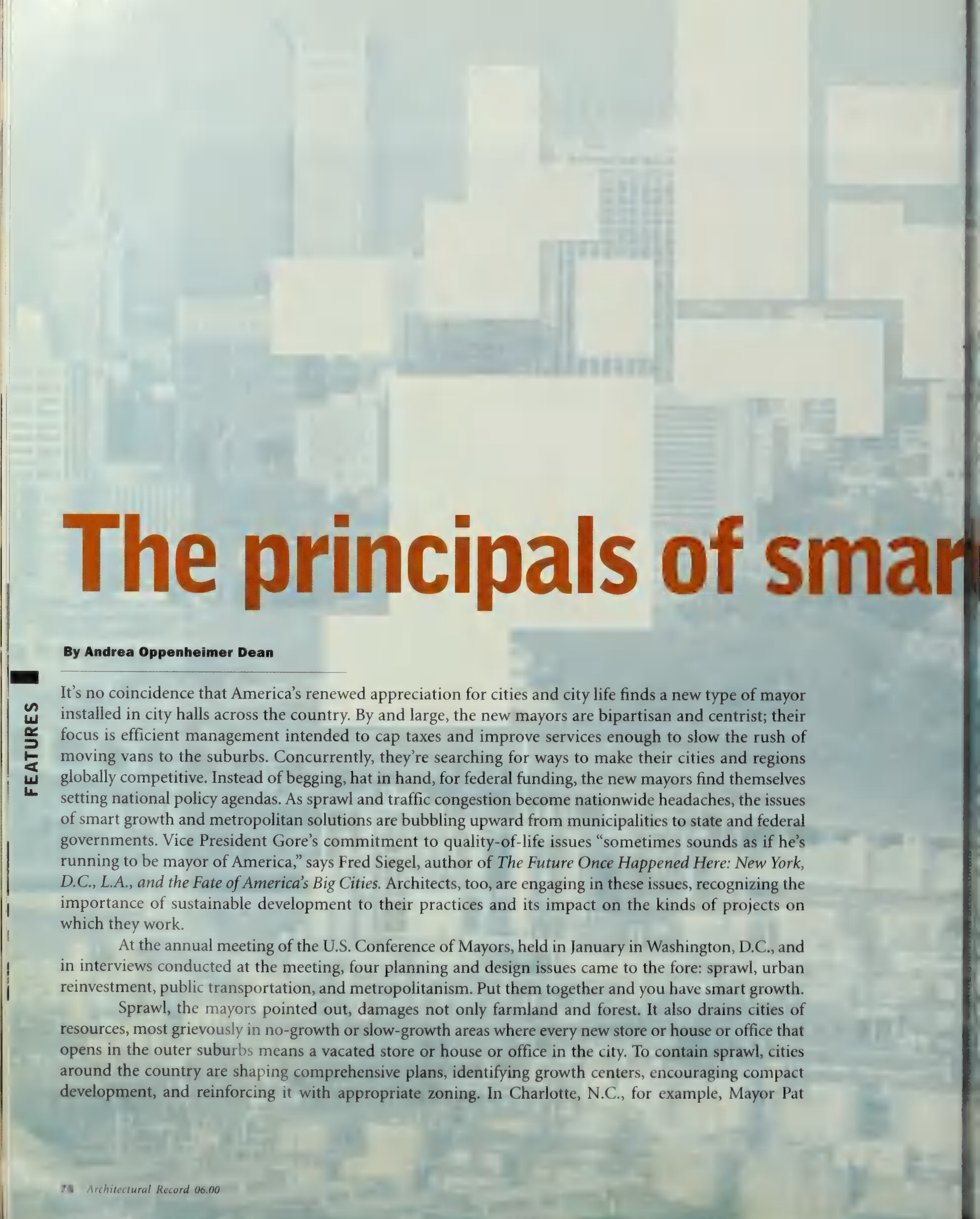
t's more, the beauty of *INPACT* is more
skin-deep. Each device can withstand
s of punishment. The fact is, *INPACT* is
approved to meet the strictest building
es and has passed the million cycle test.*
also fully compatible with hollow metal
doors. To find out more about Von Duprin's latest masterpiece, give us a call.

INGERSOLL-RAND
ARCHITECTURAL HARDWARE

VON DUPRIN

CIRCLE 13 ON INQUIRY CARD

Ingersoll-Rand Architectural Hardware Group, Exit Device Division, 2720 Tobey Drive, Indianapolis, IN 46219 1.800.999.0408 (in Canada, 1.905.278.6128) http://www.vonduprin.com ©1999 Ingersoll-Rand
**Certified by an independent testing laboratory.*



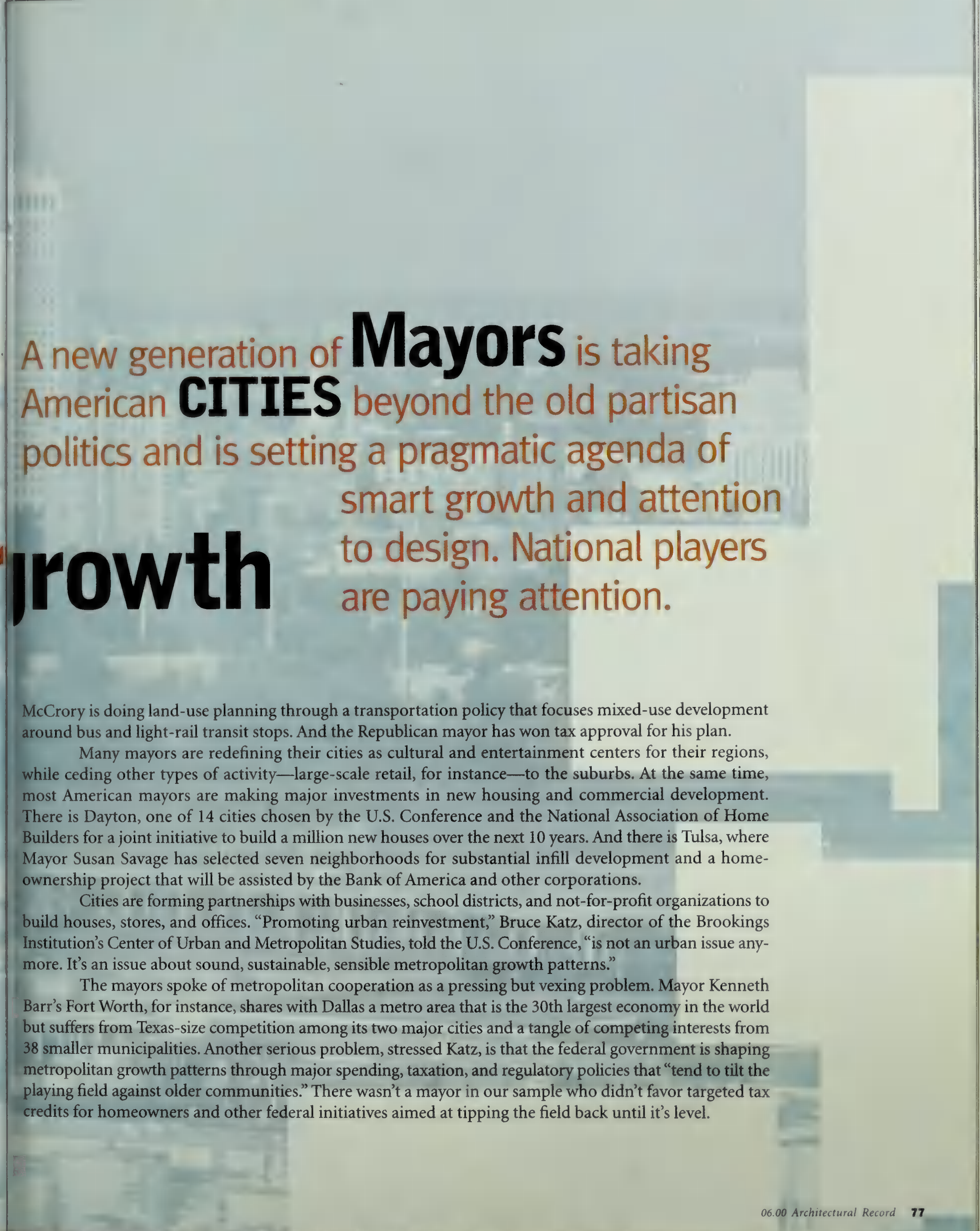
The principals of smar

By Andrea Oppenheimer Dean

It's no coincidence that America's renewed appreciation for cities and city life finds a new type of mayor installed in city halls across the country. By and large, the new mayors are bipartisan and centrist; their focus is efficient management intended to cap taxes and improve services enough to slow the rush of moving vans to the suburbs. Concurrently, they're searching for ways to make their cities and regions globally competitive. Instead of begging, hat in hand, for federal funding, the new mayors find themselves setting national policy agendas. As sprawl and traffic congestion become nationwide headaches, the issues of smart growth and metropolitan solutions are bubbling upward from municipalities to state and federal governments. Vice President Gore's commitment to quality-of-life issues "sometimes sounds as if he's running to be mayor of America," says Fred Siegel, author of *The Future Once Happened Here: New York, D.C., L.A., and the Fate of America's Big Cities.* Architects, too, are engaging in these issues, recognizing the importance of sustainable development to their practices and its impact on the kinds of projects on which they work.

At the annual meeting of the U.S. Conference of Mayors, held in January in Washington, D.C., and in interviews conducted at the meeting, four planning and design issues came to the fore: sprawl, urban reinvestment, public transportation, and metropolitanism. Put them together and you have smart growth.

Sprawl, the mayors pointed out, damages not only farmland and forest. It also drains cities of resources, most grievously in no-growth or slow-growth areas where every new store or house or office that opens in the outer suburbs means a vacated store or house or office in the city. To contain sprawl, cities around the country are shaping comprehensive plans, identifying growth centers, encouraging compact development, and reinforcing it with appropriate zoning. In Charlotte, N.C., for example, Mayor Pat



A new generation of **Mayors** is taking American **CITIES** beyond the old partisan politics and is setting a pragmatic agenda of smart growth and attention to design. National players are paying attention.

growth

McCrory is doing land-use planning through a transportation policy that focuses mixed-use development around bus and light-rail transit stops. And the Republican mayor has won tax approval for his plan.

Many mayors are redefining their cities as cultural and entertainment centers for their regions, while ceding other types of activity—large-scale retail, for instance—to the suburbs. At the same time, most American mayors are making major investments in new housing and commercial development. There is Dayton, one of 14 cities chosen by the U.S. Conference and the National Association of Home Builders for a joint initiative to build a million new houses over the next 10 years. And there is Tulsa, where Mayor Susan Savage has selected seven neighborhoods for substantial infill development and a homeownership project that will be assisted by the Bank of America and other corporations.

Cities are forming partnerships with businesses, school districts, and not-for-profit organizations to build houses, stores, and offices. "Promoting urban reinvestment," Bruce Katz, director of the Brookings Institution's Center of Urban and Metropolitan Studies, told the U.S. Conference, "is not an urban issue anymore. It's an issue about sound, sustainable, sensible metropolitan growth patterns."

The mayors spoke of metropolitan cooperation as a pressing but vexing problem. Mayor Kenneth Barr's Fort Worth, for instance, shares with Dallas a metro area that is the 30th largest economy in the world but suffers from Texas-size competition among its two major cities and a tangle of competing interests from 38 smaller municipalities. Another serious problem, stressed Katz, is that the federal government is shaping metropolitan growth patterns through major spending, taxation, and regulatory policies that "tend to tilt the playing field against older communities." There wasn't a mayor in our sample who didn't favor targeted tax credits for homeowners and other federal initiatives aimed at tipping the field back until it's level.

ROCHESTER, N.Y., STRUGGLES WITH SHRINKING POPULATION AND GROWING BOUNDARIES

For an unusual spin on sprawl, consider Rochester, N.Y., and its surrounding county. “In Monroe County, we have the worst-case scenario of sprawl without population growth,” says **Mayor William Johnson**. “We're at the point where each new home built in one part of the county means a home turned to rental property or abandoned in another area.” Similarly, each square foot of new retail space built means that somewhere else in the county an equal amount of retail space is vacated.

In the last decade the county has built nearly 300 miles of new roads, and highway maintenance expenditures have risen more than 40 percent. School-busing costs have doubled while student enrollment increased only 8 percent. Local governments in Monroe County collected over $500 million more in tax revenues in 1997 than 10 years earlier, an increase of nearly 70 percent, and the mayor blames most of the revenue churning on sprawl. “Our population is not growing; it's just relocating, scattering itself around,” he explains.

Johnson points out that upper New York State, once the nation's economic engine, has been largely abandoned by industry. Until recently, Rochester was home to Eastman Kodak, Bausch & Lomb, and Xerox, all of which have relocated, decentralized, or been broken up, “but the residuals [the empty buildings and infrastructure] of this economic and industrial development remain,” says the mayor, a two-term Democrat. “We are still maintaining too much of the old infrastructure while trying to support new infrastructure—new schools, new shopping areas.”

His comprehensive plan calls for smart growth development, “but we are lagging far behind. The chairman of the Republican party in Monroe County has called smart growth communistic.” The new comprehensive plan, the first since 1964, redefines the city, says Johnson, as the “center city for the region. The plan acknowledges the movement of retail to the suburbs and the difficulty of recapturing it. It focuses on the fact that the city of 220,000, built to accommodate 350,000, is still the region's business center and that with its museums, live theater, and performance halls, is still the region's cultural center. “These assets,” says the mayor, “are marketable throughout the region.” Rochester also recently upgraded its indoor sports arena and built a new baseball stadium, which, Johnson says, attracted people downtown for the first time in years. The city launched a free shuttle-bus system that ferries people through downtown in the evenings, and three fledgling downtown entertainment districts now prosper. The city is also working with not-for-profits, such as Habitat for Humanity, to revitalize neighborhoods and increase homeownership.

Despite wanting to attract business to the city, Johnson is dismayed that even rich companies expect hefty subsidies to build in the city and insist on erecting new buildings instead of renovating old ones. “Soon everything will be a brownfield. Someone has to be willing to stand up and say, no, even at the risk of losing a major project.”

The solution, in Johnson's eyes, is regional planning. “City bashing is old politics,” he says, “and ignoring the realities that undermine regional cooperation is old economics. Only regions project the necessary scale and diversity of assets to compete in the global marketplace.”

Andrea Oppenheimer Dean

DAYTON TACKLES BROWNFIELDS TO CREATE HOUSES AND OFFICES

Bringing people and businesses back downtown is a challenge facing most cities today. The task is particularly difficult for places like Dayton, Ohio, with long histories of industrial development. But Dayton has devised a series of strategies that seems to be working, says **Mayor Michael Turner**.

The city, which has a population of 185,000 in a metropolitan area of 1.2 million, is working with banks, businesses, and neighborhood groups to rejuvenate its downtown. “We've partnered with banks to provide low-interest housing loans, low down payments, and tax abatements,” reports Turner. “By creating a more diverse housing stock and preserving older neighborhoods, we're encouraging people to move back into the city. And that combats sprawl,” says the mayor.

Turner, who was first elected mayor in 1994, has also pushed for stronger crime-fighting efforts, additional police officers and, in some case, the closing off of streets to through traffic in an attempt to deter drug dealers and gangs. Since many of these neighborhoods abut the city's business district, improvements here make the downtown more

DID WE MENTION IT'S SLIP-RETARDANT?

The easiest to clean slip-retardant floor available. Mannington Assurance.

MANNINGTON
COMMERCIAL

1-800-241-2262 www.mannington.com

CIRCLE 30 ON INQUIRY CARD

attractive to companies looking for office space, says Turner.

Tackling industrial brownfield sites has helped residential redevelopment. "We pulled together a brownfield redevelopment authority that includes the banking and real-estate communities, the chamber of commerce, and our city and county governments. We're looking at the inventory of land that's available and setting priorities for attack and investment," says Turner.

One strategy is to acquire abandoned industrial sites and make them "business ready" even before a tenant has been found for the space. "Before, we used to wait until we had a business interested," says Turner. "But because we were dealing with redevelopment, not just development, we could never meet the timeliness that businesses needed. So now we make the land ready with acquisition, demolition of existing buildings, cleared-up land titles, and a financial incentive package all in place."

Turner contrasts this approach to the one the federal government has pursued. "The whole brownfields issue is a federally created problem," states Turner. "In wanting to make certain that the responsible party pays the expenses for cleanup, they have created a disincentive for people to clean up properties—which is an incentive to use greenfields instead."

Preserving some of Dayton's industrial past is part of the city's plan for the future. Turner hopes that by working with the city's remaining tool-and-die manufacturers, he can create an industrial park that will include both active industries and an educational component. Called Tool Town, the park would sit on 38 acres of underutilized industrial land. Also in the works are a new downtown baseball stadium and a riverfront park. When they're done, Dayton will be heading into the new century with a whole new outlook.
Clifford A. Pearson

CHARLOTTE KNITS TOGETHER THE PLANNING PROCESS

In the last two decades, Charlotte, N.C., has transformed itself from an aging mill town into a symbol of the "new South." Gleaming office buildings form a modern skyline, new sports arenas play host to major-league franchises, and banking has replaced textiles as a driving force behind the economy. Now it faces the challenge of controlling growth.

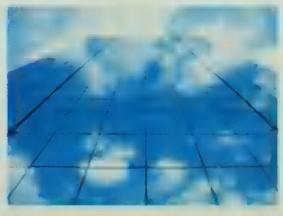
"Transportation and land-use planning have to go hand-in-hand," states **Patrick McCrory**, the third-term Republican mayor of Charlotte. "If you're implementing mass transit and you don't have land-use planning, you're wasting your highway and transit funds." A few years ago, municipal and county governments approved a 0.5 percent sales tax and now apply $50 million of that each year to a regional transit system.

Although an outer beltway is being built around Charlotte, the city of 450,000 people is focusing development at the 35 highway exits, creating a hub-and-spokes network for the regional transit system. According to McCrory, urban highways aren't the problem, but the design of these highways is. "How you design interchanges, pedestrian access, landscape, and the buildings that rise along the highway—these are what need to be changed and reengineered."

Zoning and design guidelines now call for buildings that front directly on the street, have parking in the rear, and provide adequate landscaping, says McCrory. "We've found that you also need to look at connectivity. You cannot build a residential or commercial or industrial establishment as a cul-de-sac. Once you do that, you're creating a transportation and environmental nightmare." Municipal leaders need to look at the big picture when considering construction projects, warns McCrory. "You see cases where neighborhood groups and a developer reach a deal that may be win-win for them in the short run, but the long-term impact is lose-lose. For example, residents might want a shopping center that's segregated from the neighborhood. Then they come back and demand a stop light. The next thing you know, you have 10 stop lights within 2000 yards. That's bad long-term planning."

While Charlotte is still expanding outward, McCrory has had success in encouraging developers to return to the center city. "Land prices in the inner city are actually escalating at a greater rate than outside the city, so developers are seeing a way to make money. We put $1.2 million into rebuilding sidewalks and replacing lighting in old brownfield sites. In the last five years, we've seen $75 million in new private-sector investment. Now they're selling condominiums for $250,000 to $500,000 on old brownfield sites."

A discouraging trend, though, is the disposable nature of much new construction. "We're seeing the life span of a lot of buildings being only 10 to 20 years. Shopping centers built in the 1970s and '80s are being abandoned for newer ones. Now we have to figure out what the hell to do with vacant shopping centers with massive parking lots in front. We are left with crap. That's the future blight of cities, just 10 miles out. A major part of smart growth will be to demand buildings with lives of 100 years, not 10." *C.A.P.*



SOMETIMES, NOTHING BUT BLUE WILL DO.
INTRODUCING VERSALUX™ BLUE 2000T
ARCHITECTURAL GLASS.

ellow jeans. A purple-ribbon finish. Some hings just wouldn't make sense if they were ny color but blue.

If you're having visions of blue for your ext building, discover a distinct shade of ifference: Versalux Blue 2000T architectural lass from Visteon.

A stunning, bolder blue—Versalux Blue 2000T's titanium-based coating gives you a rilliant exterior look. While having excellent solar-control properties it also allows for a brighter interior environment. Versalux Blue 2000T is now available, easy to work with, and backed by Visteon's exceptional commitment to service. All in all, it reflects beautifully on those who recommend it.

Visit visteon.com/floatglass to find out more about Versalux Blue 2000T. And see what possibilities come out of the blue.

CIRCLE 71 ON INQUIRY CARD

Seeing is believing. Call us at **1 800 521 6346** *for a free sample of Versalux Blue 2000T. The brightest blue under the sun.*

Visteon

See the possibilities™

TULSA OFFERS INCENTIVES FOR SMART GROWTH

Tulsa was a world energy capital until the oil bust of the early 1980s, when 40,000 high-paying oil- and gas-related jobs vanished. But Tulsa has remained the region's cultural center, thanks to the philanthropic gifts of the oil barons who built the city—J. Paul Getty, William Skelly, Harry and Earl Sinclair, and the Phillips brothers. **Mayor Susan Savage** is building on the city's cultural and entrepreneurial legacies, which have helped reshape her city into a telecommunications and aerospace hub with an unemployment rate of 3 percent. Tulsa remains a low-cost, low-density city and construction cranes are visible on the skyline for the first time in decades.

Like other former manufacturing strongholds, Tulsa is pockmarked with abandoned plants and warehouses. "Brownfields are simply real-estate deals with environmental considerations," she says. "The question is, who's going to clean up that mess? How are we going to pay for it? These are big, big issues for our communities. That's why getting legislation, getting a federal role is very important." Also vital is the provision of financial incentives, because end users need sites that are cleared and ready to go. Usually the costs of acquisition, cleanup, and demolition far exceed the value of the land.

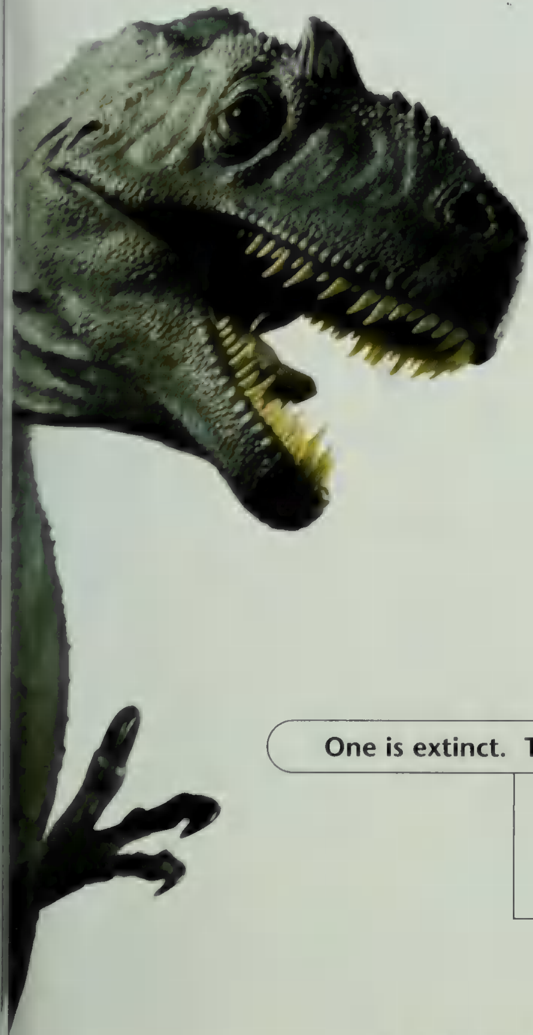
Savage has been working to clarify brownfield liability issues and streamline the city's zoning and development codes. Her administration inventoried all its sites and selected two or three for redevelopment. With funds from EPA, HUD, and the Army Corps of Engineers, the city recently acquired the first of the chosen sites and is preparing to clean and lease it for commercial redevelopment.

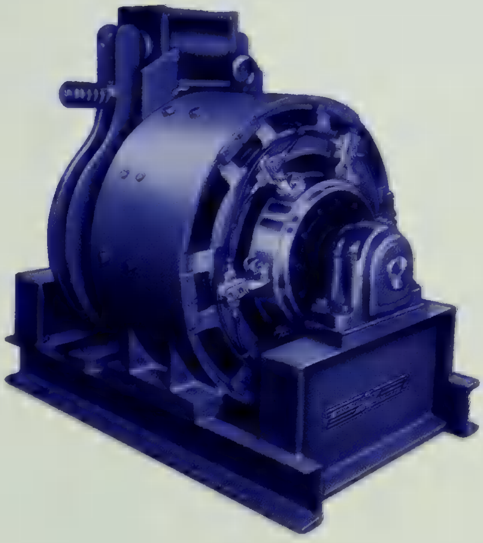
Savage has also partnered with the AIA to hold two planning workshops, City Design in 1996 and Smart Growth last year. Both concentrated on infill projects and resulted in targeting three neighborhoods for redevelopment and in identifying obstacles to their further renewal. "For example," she says, "in the warehouse district, building codes have made redevelopment difficult. We have a review underway to see if we can create some flexibility." She adds that tools must be found to provide incentives for all types of development. Downtown, for instance, where a Fortune 500 company is undertaking a major expansion, the city has created a tax-increment district, is improving transit with the state's help, and is building parking garages.

Savage cites three principles that can guide the discussion of smart growth: economics, environmental considerations, and—often neglected—issues of equity. "How do you create a strategy that takes all citizens into account, that provides transportation for inner-city kids to newly preserved open space or transportation links from housing to jobs?" As part of this effort, Tulsa has targeted seven low- and moderate-income neighborhoods for new housing and created a homeownership program, for which the Bank of America "is putting up millions in new construction money, and we're doing training and credit counseling."

Her administration has also taken a stand on design. "It's no longer appropriate or good public policy to build ugly things that don't enhance the community," she says. "Since technology lets people telecommute and live nearly anywhere, if a locale doesn't have an appealing sense of place and easy access in and out of town, people are going to live elsewhere." *A.O.D.*

KONE





One is extinct. The other is about to be.

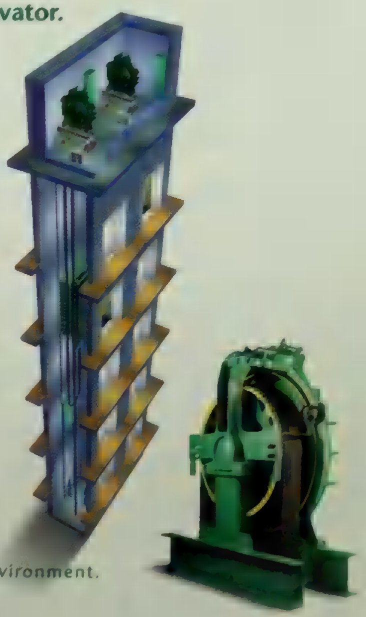
Introducing KONE EcoSystem MR®. A new species of elevator.

For applications up to 24 floors, EcoSystem MR® renders conventional geared and gearless traction or hydraulic elevators obsolete. Fast, quiet EcoSystem MR elevators require 50% less machine room space, far less energy and less installation time. For high performance, low ownership costs, and environmental responsibility, KONE EcoSystem MR elevators are the natural selection. ▪ Get the full story: 1-800-956-KONE or www.us.kone.com.

Powered by KONE
EcoDisc®

EcoSystem...Revolutionary elevator performance for you and the environment.

CIRCLE 47 ON INQUIRY CARD



BOISE SHOWS HOW REGIONAL COOPERATION CAN WORK

Mayors around the country complain about the fragmented landscape of local government and how it is ill-fitted to address the region-size problems of sprawl, overburdened infrastructure, and municipal competition. In June 1997 a group of leaders in southwest Idaho decided to take the bull by the horns and wrestle it to the ground together.

The result was a "partnership agreement," signed by the area's seven mayors and two county commissioners, that commits the officials to work together on a regional agenda. It binds the leaders to "create coherent regional growth and development patterns," to "link land use and transportation," to "reinforce . . . community identities and sense of place," and to "protect and enhance open space and recreational opportunities."

At the center of the effort was **H. Brent Coles**, mayor of Boise. Mayor since 1994, Coles leads his city at a time of rapid growth and sometimes jarring transformation. Ada and Canyon counties, which comprise the Treasure Valley where Boise is located, grew at the fourth-fastest rate in the nation during the 1990s. Where towns once enjoyed open spaces and majestic views, "a new West" of colliding jurisdictions is now emerging. Referring to the Treasure Valley Partnership agreement, Coles says, "We broke down barriers and put away past animosities. We focused on the needs of our region in an honest, straightforward way."

The mayors and county commissioners now meet once a month to focus on a particular issue and listen to experts in the field. "We've had the parks and recreation directors from the region come in and talk about open space. One of us will ask, 'What are you doing with your parks? How come your city hasn't built more parks and we seem to be building them all?' It's a very open discussion."

During the last two years, each of the municipalities has completed a new comprehensive plan. "Then we took all those plans and projected them on one map," relates Coles. "And we asked each other, 'How much industrial space, how much commercial space, how much open space are we going to have if we build out all of our plans? What kind of infrastructure are we going to need?' This seems like something that everybody should have done 100 years ago. But it had never been done in our region."

Because land-use decisions affect where people live, work, and shop, they affect how people get from one place to another. "Transportation and land use" are two of the critical issues facing the region, says Coles. "There's still lots of land and opportunity to either build more freeways or to do something on the European model—to rely more on trains, whether light-rail or commuter."

Coles explains, "We need to set aside and develop our land with the densities and use needed for neighborhood commercial centers and commercial space around transit centers. If we begin planning that today and if we bond for and invest in a transit system, it will truly be a new west." That will require a kind of long-term cooperation and planning that few parts of the U.S. have exhibited in recent years. *C.A.P.*

RICHMOND, CALIF., MAKES THE CONVERSION FROM INDUSTRIAL TO HIGH-TECH

Richmond, Calif., which has a population of 93,000, spreads over more than 56 square miles and edges 32 miles of Pacific shoreline on a peninsula 16 miles northeast of San Francisco. Established in 1902 at the Santa Fe Railroad's western terminus, the city remains an important transportation hub, benefiting from a deepwater port, several local bus lines, and BART and Amtrak rail stations.

Richmond's **Mayor Rosemary Corbin** says that during the last decade her city has successfully transformed its economic base from heavy industry to services and high-tech. "But we're an old industrial city and have crime problems, pollution problems, and we've worked very hard to get our population trained and into good jobs. As such, our main concerns are economic development, public safety—the same challenges as any urban center."

Reviving the city has necessitated extensive cleanup and conversion of former industrial and shipyard buildings. There is, for example, the former Marina Bay Shipyard, the world's largest during World War II: Over a 25-year period it has been converted into mixed-use developments and parkland. Because of contamination, the city was able to recover 85 percent of its cleanup cost from the federal government, the Santa Fe Railroad, and Kaiser Steel, says Corbin.

THERE ARE WINDOWS AND THERE ARE MIRRORS. WE DON'T GET THEM CONFUSED.

Ordinary glass

AMIRAN anti-reflective glass

AMIRAN® anti-reflective glass is so clear, it's like it's not even there. Mirrors are great for seeing yourself. They're not so great for seeing what's on sale. Or what's inside a zoo, museum, restaurant – anyplace where visibility counts. That's when you need Amiran anti-reflective glass. For years it's been virtually eliminating glare to as little as 1%. There are other advantages, too. Amiran saves money. It lets more light pass through than regular glass, so lighting fixture and energy costs are lower. And only Amiran has a 15-year track record for reliability. Amiran anti-reflective glass is available in tempered, laminated and insulated glass panels for delivery anywhere in the U.S. Because if you want a window, we think you should get a window. Let us put some Amiran in your hands so you can see the dramatic difference for yourself. Call 914-378-3839 or write Schott Corporation at 3 Odell Plaza, Yonkers, NY 10701 for samples. For more details, visit www.schottglass.com/amiran.htm.

SCHOTT
glass made of ideas

© 1999 Schott Corporation. ® Amiran is a registered trademark of Schott Glas, Mainz, Germany.

CIRCLE 64 ON INQUIRY CARD

Another brownfield project, set to break ground next year, will turn the 500,000-square-foot former Ford Assembly Building into a $100 million mixed-use complex. Plans are also being finalized for an "urban transit village" in Richmond's historic district. The development, designed by Peter Calthorpe, FAIA, will focus on the intermodal transit station and combine retail, 218 residential units, and an arts facility.

In evaluating and reviewing these projects, the city has had the benefit of an architect city councilman, who, says Corbin, has "raised our consciousness."

While city officials in Richmond appreciate the benefits of "smart growth," says Corbin, "the biggest challenge is talking the public into these notions. We've had workshops to show what you can do with higher densities—the Victorians in San Francisco, the brownstones in New York—but when the rubber hits the road and we try to rezone even to allow duplexes in residential neighborhoods, there's a great deal of opposition."

Another battle, she says, is overcoming opposition to building low- and moderate-income housing in middle-class neighborhoods. "I say to them, don't you want teachers in your schools to live here, and they go, 'Oh yeah.' The definitions of low- and moderate-income housing need to be better known."

Still another challenge for Corbin and other California mayors has to do with the peculiar difficulty of raising funds in California. "It takes a two-thirds vote here," says Corbin. And Proposition 13, enacted more than 20 years ago, "is still hurting us, because it allows the state to redirect property taxes from cities and counties to its own coffers. That has driven all cities to compete for retail, because we don't get enough property taxes to support new residential development anymore. And now the sales tax is being threatened. What's left?" *A.O.D.*

FORT WORTH FOCUSES ON BRINGING HOUSING BACK TO ITS URBAN CORE

"Our biggest push," says Fort Worth's **Mayor Kenneth Barr**, "is to rebuild the core area, the central city." Having revitalized the central business district over the last 15 to 18 years, Barr's emphasis now is on renewing the residential areas surrounding downtown.

Over the years, he says, Fort Worth's prewar neighborhoods have been allowed to deteriorate. A lot of the refurbishing effort is just plain cleanup, he says; during the last three years city workers have pulled 7,000 junk automobiles off yards. "The bad news," he says, "is that's only about one-third of what needs to be pulled."

The city has combined cleanup with rebuilding the streets, to which people respond, says Barr, by starting to clean up their yards. In addition, the city has embarked on a tree-planting program and has doubled its code-compliance staff while arming them with increased authority and new ordinances requiring apartment complexes to be maintained to a high standard or risk being demolished.

The city is also rehabbing housing and building new houses. Under its Model Blocks program, Fort Worth funnels HUD funds into defined areas, using the funds for construction and low-interest and first-time homeownership loans. A separate infill housing program fills gaps left by the demolition of dilapidated and neglected structures. "We've discovered you have to rebuild neighborhoods; you can't just put in a house here and another there. You have to create a sense of community to get people interested," says Barr.

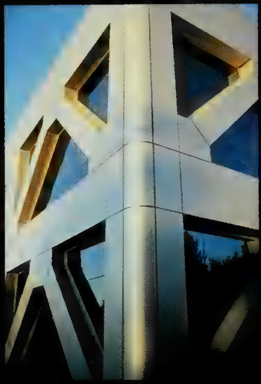
To fight what Barr considers the two main reasons Texans elect not to live in city neighborhoods—the perception that they are unsafe and have inadequate schools—his administration has beefed up crime-prevention efforts and reports that the crime rate has fallen by 55 percent since 1991. The city has also put extra resources in the city's largest school district, which, he says, is stronger and more innovative than its reputation, to create good after-school programs for children who would otherwise be going home to empty houses.

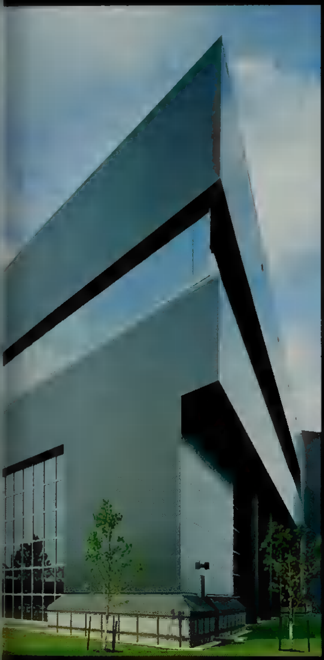
Planning has never been a long suit for Texas cities, where individualism and property rights are highly prized. Nonetheless, for the first time since the early 1980s, Fort Worth is completing a comprehensive plan. "It's a grand plan for what the city is going to be and do," says Barr. "I think cities across the country are trying to do this."

Based on workshops with community members, Fort Worth's plan projects a vision of what residents want for their city's future—"and that means not being like Dallas," says Barr. Fort Worth has a population of 110,000, and covers 300 square miles; the city controls another 350 square miles in its "extraterritorial jurisdiction," land that can be used for expansion. "But we're working on strategies to utilize the existing areas of the city rather than continually growing outward," says Barr. His comprehensive plan identifies 29 growth centers within the city limits where it wants to concentrate mixed-use development at various scales.

The city's dearth of public transportation leaves it without ready-made focus points for development, explains Barr, a situation he is slowly beginning to remedy. A first step will be a new public square where the city bus lines converge downtown.

Barr says that one of the most interesting new phenomena in Fort Worth and Dallas is fledgling public transportation, which now has 3,000 riders a day. "I think what we're proving," he says, "is that, contrary to what everybody said, people in our part of the country will use public transportation. If the schedules and routes and equipment are right, they will." *A.O.D.* ■





A Panel Discussion

When you're talking design flexibility, contemporary appearance and affordability, you're talking Alucobond® Material. Created 30 years ago as the first-ever aluminum composite material or ACM, Alucobond Material has contributed to the design excellence of more than 50,000 buildings worldwide. Alucobond Material's success is due in part to its network of distributors/fabricators–clearly the best in the industry. These partners offer unequaled knowledge and expertise regarding all aspects of fabricating and installing aluminum composite material. And that translates into unequaled benefits for you. So consider Alucobond Material for your next design challenge. You'll experience the confidence that comes only with the best product and people in the industry.

ALUCOBOND®
MATERIAL

alusuisse
composites

Alusuisse Composites, Inc.
P.O. Box 507 • [illegible] W. 5th Street • Benton, KY 42025•0507
800-382-6445 • 270-527-4200 • Fax 270-527-1552
www.alusuisse-comp.com

CIRCLE 19 ON INQUIRY CARD

The State of

By Andrea Oppenheimer Dean

We asked 50 architects, clients, and educators to share their ideas about the effects of seven years of prosperity, a CAD revolution, and increased awareness of issues like green design on architectural practice. Here are some of their thoughts plus new practice data from the AIA's Firm Survey 2000–2002.

Seven fat years: Changing the firm culture

Last year half of all firms expanded, and over one-third grew by 20 percent, according to the AIA's Firm Survey 2000–2002. Ironically, it is in good times that architects are forced to confront the most dramatic changes in practice management.

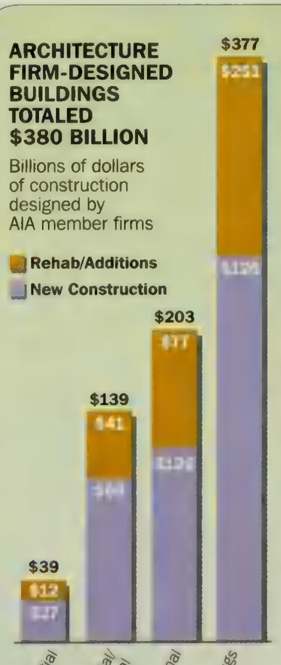
For one thing, seven years' growth has created unprecedented competition for qualified personnel. That has put pressure on firms to establish competitive salary, stock option, benefits, and retirement packages. Richard Rittelmann, FAIA, of Burt Hill Kosar Rittelmann, says that young practitioners don't have to hustle for employment, and "principals are more attentive. I see much more emphasis among large firms on educational programs and other perks." He adds that this is "driving up salaries but not fees."

> **"WE'RE SO BUSY** MEETING THE NEEDS OF THE STRONG ECONOMY THAT WE DON'T HAVE TIME TO REFLECT AND **CHANGE OUR WAYS."**
>
> *—Arnold Mikon, FAIA*

But educational programs may not make up for the personal attention that has always been at the core of an architect's training. "Command and control doesn't work anymore," says Louis Marines, FAIA, president of the Advanced Management Institute for Architecture and Engineering in San Francisco. Principals, he says, used to walk around the studio looking at boards. They spent time with young architects discussing their work. With the advent of

ARCHITECTURE FIRM-DESIGNED BUILDINGS TOTALED $380 BILLION

Billions of dollars of construction designed by AIA member firms



- **Total billings by AIA member firms climbed to $24 billion, from $14.4 billion in 1996.**
- **Typically only 5 percent of firm gross billings came from joint ventures, and another 5 percent from working as a subcontractor.**
- **Sole practitioners and 50-or-more-person firms reported higher portions of billings from subcontracted work.**
- **Net billings per full-time employee increased by an average of 33 percent between 1996 and 1999.**

ILLUSTRATIONS: LISA STAPLETON

the Profession

electronic document production, the pace has become too fast for leisurely conversations, so young architects may not get the feedback they need. And, because CAD changes every two or so years, retaining dexterity requires practice, and many supervisory personnel don't have time for it. "You hear a lot of well-known architects saying they walk through their offices and don't understand what's going on," says Rittelmann.

Because many architects who would now be project managers in their 30s and 40s dropped out of the profession in the early 1990s, many 20-something designers are doing the jobs of senior associates, running complex projects. "They're learning by trial and error rather than by years of training," Marines adds, "We run the risk of burning out this great moment, burning out people, jeopardizing client relationships, and finding ourselves in liability messes, because we haven't created the quality we should."

Architects, spooked by fears of recession, are overextending their practices. There is already some evidence that architects' liability insurance claims are on the rise as a result of the pressure to get jobs out quickly. Martin Zweig, president of management consultants Zweig White & Associates, warns that a softening of the economy will expose the Achilles' heel of many architects: poor business practices.

The economic climate

F.W. Dodge, a division of the McGraw-Hill Companies, reported that the value of construction starts achieved an all-time high in 1999, rising 10 percent to $443 billion. According to Robert A. Murray, vice president of economic affairs for Dodge, further growth is projected for 2000, as contracting advances 1 to 2 percent in reaching $450 billion. The AIA's Consensus Construction Forecast Panel projects comparable gains of one to two percent.

The dollar volume of single-family housing will settle back 2 percent because of higher interest rates, according to Murray, and he says that in the income property group sector, store construction will retreat 4 percent from its record 1999 pace, as hotels slip one percent. At the same time, continued improvement is expected for offices and multifamily housing, which should enable the income property group as a whole to climb another 3 percent.

With the federal and state governments in sound fiscal shape, funding will continue to be available for highway, bridge, mass transit, and airport projects, allowing the public works sector this year to advance an additional 6 percent.

After an 18 percent surge in 1999, institutional construction should rise an additional 2 percent this year due to continued demand for school construction, according to Murray.

> "THIS YEAR IS EXPECTED TO LOOK **MUCH LIKE 1999**, BUT THE **U.S. ECONOMY** IS BEGINNING TO SLOW, AND THE INTERNATIONAL ECONOMY **TO ACCELERATE**."
>
> ***—Kermit Baker, Chief Economist, AIA***

The AIA's chief economist Kermit Baker sees the international construction market picking up this year, with Central and South America and the Pacific Rim becoming hotspots. Europe will remain somewhat weaker than the U.S. in terms of growth of construction activity through the year.

Architects redefine their businesses

It is a story as old as the profession itself: Architects worry about losing control in the building process. "Our lawyers, insurance agents, and accountants advise us not to take risks," says Randy Brown, AIA. "But the rewards go to the risk takers."

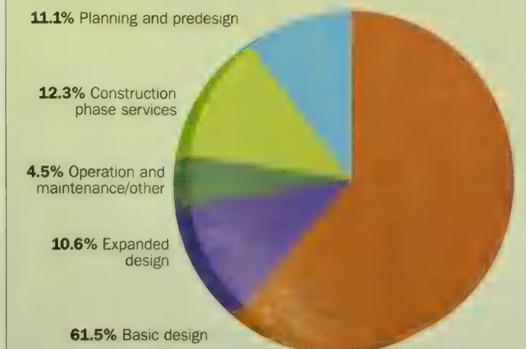
Even though design should remain the architect's forte, says Dana Cuff, author of *Architecture: The Practice*, many make the mistake of letting design be their only defining value. Often what clients want is not just design but help in creating business plans, putting together financing packages, doing life-cycle cost analyses. What architects must do, says Arnold Mikon, FAIA, of SHG Incorporated in Detroit, is forge relationships that make them "strategic partners with clients." Martin E. Powell, AIA, cautions that architects often pay a high price for emphasizing individual talent at the expense of the team. David Newman, FAIA, Stanford University's campus architect, believes that most successful projects result from collaboration. And increased pressure of time and money necessitates "a time and money specialist orchestrating the job," he says. "In most instances, that's not an architect."

> "TRENDS IN TECHNOLOGY DICTATE THAT ARCHITECTS **MUST PROVIDE** EXPANDED SERVICES SUCH AS STRATEGIC **FACILITIES PLANNING** AND **FACILITIES MANAGEMENT.**"
> *—John P. Gering, FAIA, Ceo and Managing partner of HLW International*

One recent development, however, may nudge the architect closer to the control center of the building process: the information technology revolution. Knowledge is power, and the architect, as gatekeeper of the information everyone needs to build a project, will own the knowledge.

BASIC DESIGN SERVICES ACCOUNT FOR OVER 60% OF FIRM BILLINGS

Percent of gross billings at achitecture firms



Even though in recent years much discussion has been devoted to expanding professional services as a way of maintaining firm income levels as well as control over the building processes, most firms still make money the good old fashioned way: through basic design services.

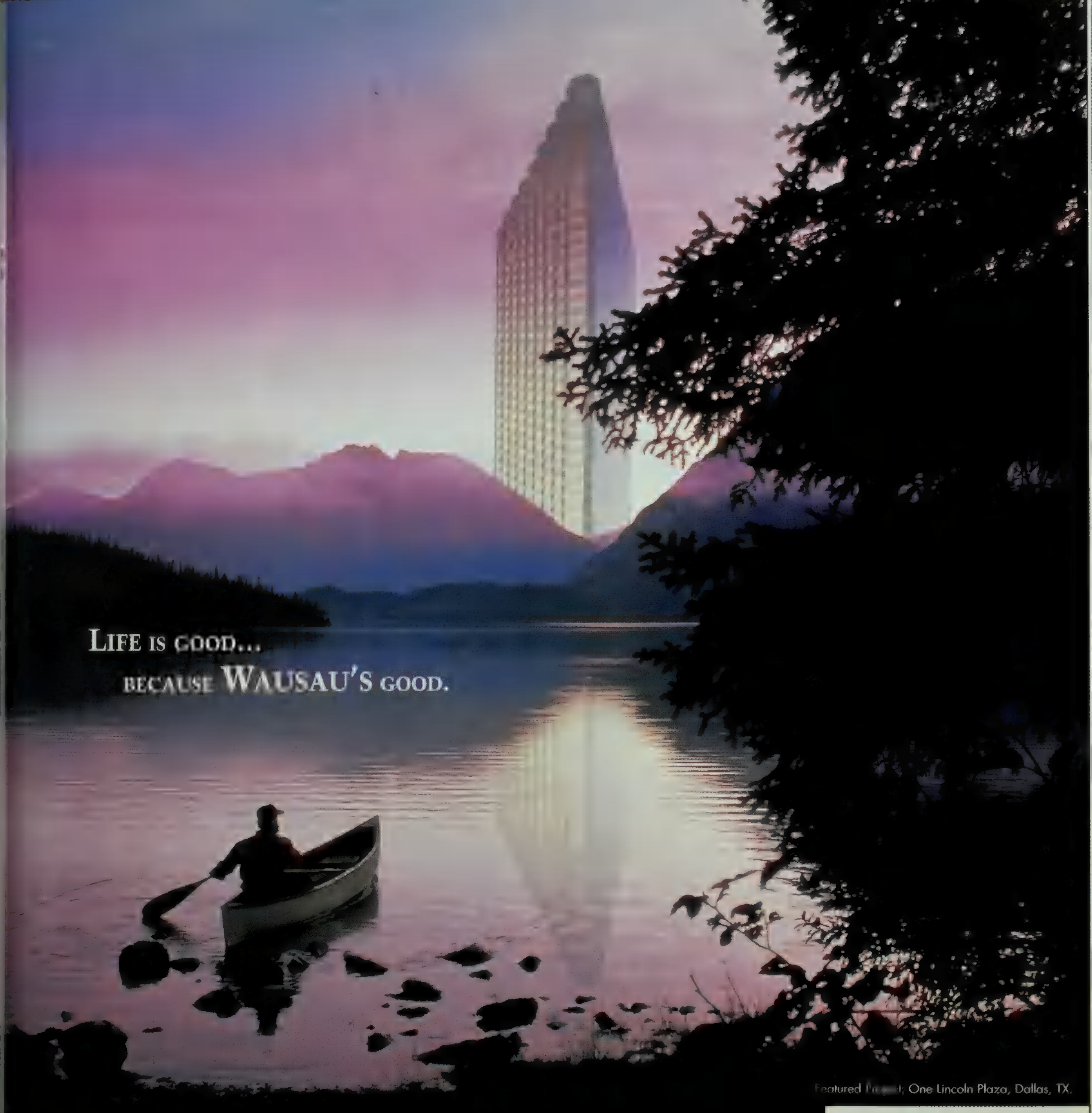
The use of information technology explodes

Ninety-four percent of large firms and two-thirds of firms with 10 or more employees have Web sites, and the number of Web sites maintained by smaller firms has increased fourfold since 1996, according to the Firm Survey. Attracting the most attention are Web sites created for specific projects. "They provide a single, current, accurate version of every document on a project, permit all authorized users to have instantaneous access to information, and track communication. Someone can't say, 'I never got that change,'" says Kristine K. Fallon, FAIA, a specialist in information technology in architecture. One effect of project Web sites is to transcend time and space, allowing a firm to move work among its offices around the clock and around the world.

Almost universal is the use of the Internet for communication. Among large firms, the use of the Net for exchanging E-mail and transmitting correspondence and drawings is virtually 100 percent, says Jerry Laiserin, FAIA, an information technology consultant and a RECORD contributing editor. A significant minority of architects also conduct product and background research on the Net, which offers updated catalogs, code information, and cost estimating. Rob Majteles, president and CEO of Cephron, Inc., an online procurement, bidding, and catalog service, believes that all services sold offline to the construction industry—approximately $275 billion of materials and services a year—will move online.

Information technology also compresses the design process and "narrows the gap between design and production," says William MacDonald, AIA, because it allows an architect to work at a detailed level from early design phases. "You're always producing as you're designing." At the same time, because it compresses the production process, information technology is making architecture a "more consultative profession," says Rittelmann. CAD itself is undergoing a major change. Early versions, which translated drawings into digital form, are being replaced by 3-D, object-oriented CAD. "We are on the threshold of software that makes objects self-aware, able to know they have a relationship to another object and have to change with it," says Fallon. She predicts that the number of firms using 3-D CAD is going to increase, leading to changes in the way people design and the way offices and teams are organized.

> "INFORMATION TECHNOLOGY **LETS A SMALL** FIRM LIKE OURS IN THE MIDDLE OF THE COUNTRY **COMPETE** WITH A 100-PERSON PRACTICE. **WE** CAN ADVERTISE WITH OUR WEB PAGE **TO THE** WHOLE **WORLD.**" *—Randy Brown, AIA*



WE HAVE A CALMING EFFECT,

Projects just seem to go smoother with Wausau Window and Wall Systems. From our pre-bid consultation, through engineering, manufacture and installation, your Wausau customer service team keeps everything on course.

And our industry-leading 10-year warranty on material and workmanship adds an extra measure of serenity. Contact us today. We know these waters.

Life is good...because Wausau's good.

WAUSAU
WINDOW AND WALL
SYSTEMS

1.877.678.2983
www.wausauwindow.com
CIRCLE 73 ON INQUIRY CARD

Gender and generation gaps

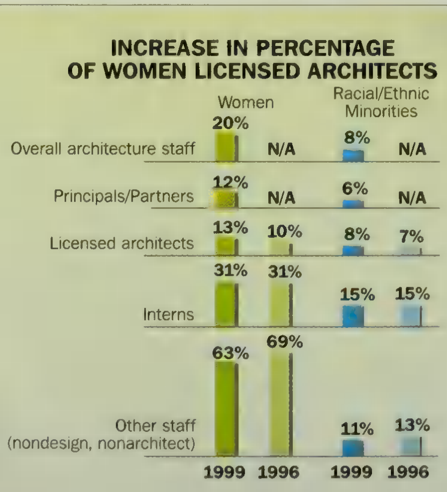
Among younger architects, the gender gap is collapsing, Cuff observes. "But that doesn't explain why there are so few women running big firms." According to the Firm Survey, women comprise 20 percent of architecture staffs and 12 percent of principals, while racial and ethnic minorities make up 8 percent of staffs and 6 percent of principals.

WHEN I STARTED OUT I WAS INTERESTED IN CONTINUITY. NOW THE **PEOPLE** WE'RE RECRUITING **ARE LOOKING FOR SHORT-TERM EXPERIENCE**. THEY MOVE ON ALMOST LIKE **FREE AGENTS** IN SPORTS."—***Martin Powell, AIA, of the Design Alliance Architects in Pittsburgh***

If a gap separates generations in architecture offices today, the distance was spawned by prosperity on the one hand and the information technology revolution on the other. Fifty-year-old Christopher Janney, of PhenomArts, Inc., recalls that when he began working in 1973, his goal was to build a career; young architects today, he says, look no further than three to five years' experience. Who blames them? Most principals, says Lou Marines, are unprepared when young designers ask, "What challenges will the firm have for me 10 years from now?" The reluctance of a principal to make promises for the future may be due to the fact that most have been through at least one, if not several, cycles of economic downturn. But young architects may bet the future will be equally bright and may sacrifice the seniority they've established at one firm to move to another that pays better, if only in the short term.

One of the effects of learning of CAD programs is that many of the skills learned are readily applicable to other multimedia and graphic design programs. As a result, employers are actually having to compete with other industries for graduates. Those who felt lucky to get $25,000 per year as a starting salary can now accept lucrative offers designing software and working in specialties such as entertainment design.

Gaps in the gender and racial and ethnic minority makeup of the profession are still wide, and progress in narrowing them has been almost insignificant in recent years. While firms are anxious to employ these groups of people the problem originates at the academic level, where a shortage of graduates exists.



Sustainable architecture

When architects begin discussing the design and construction of buildings that are ecologically responsible, a key issue seems to emerge: There is no general agreement on what exactly makes a building "green." To some, it may mean that a building is made of a high percentage of recycled or recyclable materials. To others, it may mean that a building is made of extremely durable materials, giving it longer life and more energy efficiency than comparable structures. However, such a building will be more expensive to construct. Life-cycle analyses show that initial higher costs may be paid for by a decrease in energy and maintenance bills over time, but most analysts concede that a payback time of more than four years is usually too long for most building owners.

"When push comes to shove, people are fairly selfish," says Paul Fisette, director of building materials and wood technology at the University of Massachusetts at Amherst. "If they had a choice between a better grade cabinet, and one made from wood harvested from a forest that has been certified as being managed in a sustainable manner, according to the principles of the Forestry Stewardship Council, they'd choose the former." But 15 percent are willing to pay extra for sustainability, according to Fisette. "The challenge for producers is to deliver materials that are of equal quality at a competitive cost. He adds that perception and reality about environmentally friendly materials often diverge. Recycling, for example, can require more energy than making a product anew.

"If clients understands sustainability as a way to reduce costs and be more effective with their buildings, they're very interested," says Powell, principal of a midsize Pittsburgh firm with big clients. "If they smell that it might be a waste of money or a hobby on the part of the architect, that's the kiss of death."

"I DO SEE AN **INCREASING AWARENESS**, BUT IT'S SPOTTY AMONG CLIENTS. WHAT IT WOULD TAKE IS A **MAJOR INCREASE** IN THE **COST OF ENERGY**. BUT AS LONG AS ENERGY IS INEXPENSIVE AND AVAILABLE, THE INCENTIVES TO INNOVATE AND MAKE CHANGES **REMAIN** RELATIVELY **LOW**.—***Richard Rittelmann, FAIA***

Structural™

KIM LIGHTING

CIRCLE 46 ON INQUIRY CARD

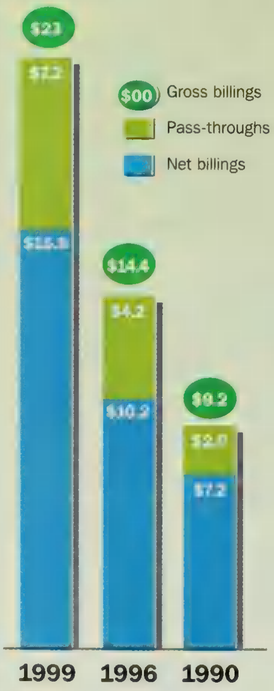
16555 East Gale Avenue
City of Industry, CA 91745
626/968-5666

www.kimlighting.com

THE AMERICAN INSTITUTE OF ARCHITECTS' ECONOMICS AND MARKET RESEARCH DIVISION *prepared this survey. Data was collected from a 14-page questionnaire sent to 4,500 AIA member-owned firms in January 2000. Thirty-eight percent of firms submitted complete, usable responses. The survey data was weighted to reflect the true population proportions of AIA member firms in terms of the number of firms in each of six size categories, as well as their geographic distribution in terms of the nine census regions. The following tables, charts, and notes can tell architects quite a bit about the state of the profession.*

SHARP INCREASE IN FIRM BILLINGS

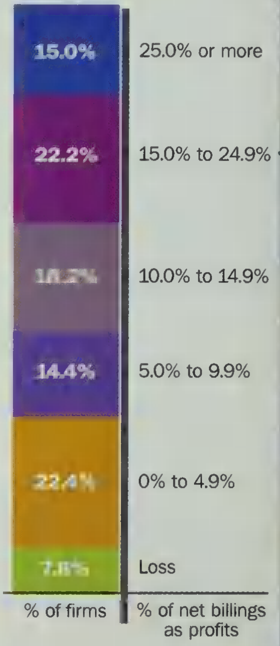
Billions of dollars in billings at architecture firms



An unprecedented boom in the amount of work to be done in the last few years, coupled with the high number of professional who left the business when times were poor in the early 1990s, has resulted in a personnel pinch and major cultural changes in architectural firms.

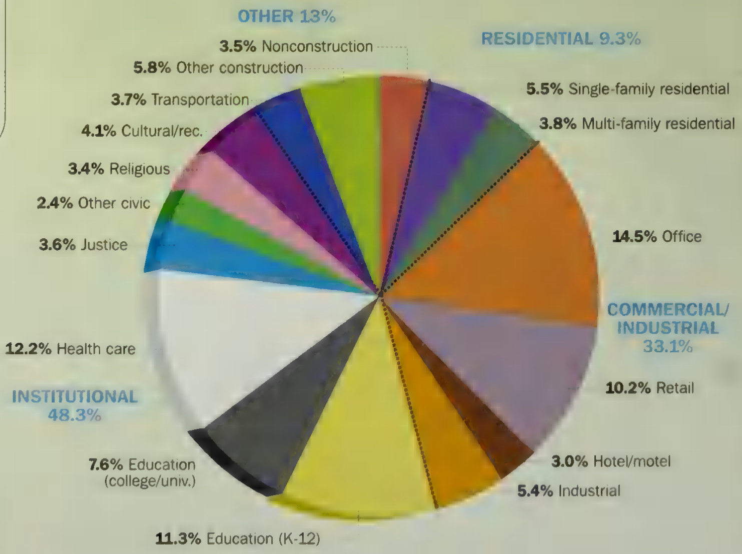
- **Over half of all firms reported double-digit profits.**
- **Most firms reinvested at least a portion of their profits back into the firm.**
- **Larger firms were more likely to distribute profits to equity holders and employees; smaller firms tended to bank their profits or pay down debts.**
- **Planning and predesign services—as well as expanded design services— are becoming a substantial share of firm billings and are considered to be quite profitable.**
- **Construction-phase services are also becoming a substantial share of firm billings but are considered less profitable.**

FIRM PROFITS AVERAGED OVER 13%



INSTITUTIONAL BUILDINGS GENERATE ALMOST HALF OF FIRM RECEIPTS

Percent of architecture firms billings



- **Billings in the commercial/industrial sector accounted for nearly a third of firm billings; institutional billings accounted for almost half.**
- **Primary, secondary, and higher-education buildings were the most common facility type for architecture firms, accounting for almost 20 percent of billings.**
- **Over 60 percent of firms concentrated their practice in a single construction sector.**
- **The most common sector for specialization—particularly for smaller firms—was single-family residential.**
- **Rehabilitation of existing facilities and building additions accounted for about a third of firm billings.**

Previous surveys were conducted in 1996, 1990, and 1988. The McGraw-Hill Construction Information Group was a cosponsor of this study. The final results of the survey will be released in August of this year. For more information, contact Giles Jacknain at gjacknain@aia.org.

Experience isn't just measured in years. It's also gauged by performance. Quality. Flexibility. And the passion to continually raise the bar. These are the qualities that define the Kawneer window. Our patented IsoLock® thermal break uses Kawneer's exclusive layered pour and debridge process to combine

THE KAWNEER WINDOW.
FROM EXPERIENCE COMES ILLUMINATION.

energy savings with structural integrity. An advanced vent and frame design retards air and water infiltration. A wide palette of protective coatings and painted finishes combines beauty with lasting durability. And our tradition of close collaboration early in the design stage assures a successful marriage of form with function for architects and building owners alike. The Kawneer window. Let our experience bring your brightest ideas to life.

For architectural product applications and technical assistance, contact our architectural services team toll free at 877/767-9107.

Kawneer

The Mark of Responsibility

CIRCLE 45 ON INQUIRY CARD

© [illegible] Kawneer Company, Inc. – An Alcoa Company [illegible] Atlanta [illegible] Court Norcross, [illegible] www.kawneer.com

New building technologies: Why are other countries more progressive?

As Rittelmann points out, the incentives for architects to innovate are sparse: Specifying an experimental new cladding material won't bring higher fees or bonuses, but it raises costs by requiring extra research. And if the product is not a success, the result might be a lawsuit. Nor are most clients particularly eager. "People don't want timeless materials," says Grimes of Ackerman Development. Paradoxically, he associates innovative materials with a dated look.

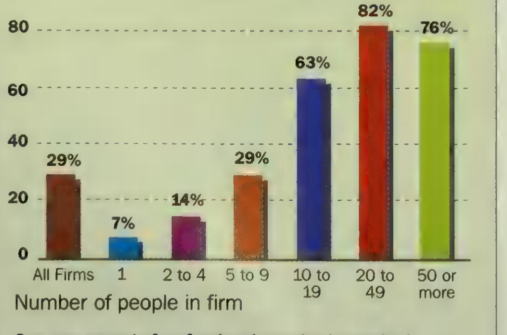
In the U.S., the testing and use of innovative materials has been largely restricted to the computer and aerospace industries, says Neil Denari, director of Sci-Arc. For a revolution in architectural technology to occur, it is incumbent on manufacturers to introduce and inform the profession about innovative materials and on architects to specify them.

"Think of the work of Jean Nouvel. Think of projects like the Reichstag. Then think of what we're building in New York," says Henry Smith-Miller, AIA. His point is that Europe is ahead of the U.S. in using innovative technologies. Randall Stout, AIA, believes Europeans are more willing to pay for innovation and quality construction because they hold architects and their products in higher esteem. Europe is also ahead of the U.S. in incorporating sustainability and quality-of-life amenities into buildings, according to Richard Swett, FAIA, ambassador to Denmark. He says there is more willingness among European clients to pay for a variety of forward-looking architectural features and that, unlike the situation in the U.S., taxation systems provide incentives to build well.

"THE **CONSTRUCTION** INDUSTRY **IS BACKWARD.** WE'RE STILL PILING **BRICKS UP** ONE AT A TIME."—***Arthur Gensler, FAIA***

MOST LARGE FIRMS OFFER CONTINUING EDUCATION ON-SITE

Percent of firms providing continuing education on-site



One new aspect of professional practice is required continuing education. The AIA now requires it for membership, and some states have begun to mandate it for licensed architects as well. On-site continuing ed is offered merely as a convenience in some firms, while others take it very seriously, offering advanced training as a perk.

How we teach: Trends in education

Recognizing that practice is changing at an ever-increasing pace, most educators still believe the best way to prepare students is to teach them to think creatively, says Marvin Malecha, FAIA, dean of North Carolina State University's school of architecture. Education, he says, is about three things: developing a critical eye, learning to have high standards, and learning to work with others. "If we can convey those three things, we're doing a good job." He says project managers who want 100 percent billable drones within a few months won't be happy with new graduates. But principals looking for future managers who can think will be satisfied.

What most people believe, says Kristine Fallon, is that the schools are doing as well as they ever did. "The real cutting-edge work is not being done in the schools or the research departments but in the field." One of the difficulties for architecture departments, says Roger Schluntz, FAIA, dean of the school of architecture at the University of New Mexico, is acquiring the technology and faculty to teach new skills.

Some conclusions

Architectural practice during this millennial year is characterized by a buoyant economy on the one hand and burgeoning information technology on the other. The strong economy has bred confidence, if not hubris, especially among the young. But the frenetic pace has largely deprived them of the attention that has always been crucial for professional maturation.

Besides expediting communications and enhancing research, code information, and cost estimates, the new technology gives architects an opportunity to regain control of the building process, which has been lost in some cases to contractors and developers. James Wines points out that the profession's challenge in this age of information and ecology is to search "for more relevant sources of content, improved solutions for sustainable construction, and alternatives to the conventions associated with the past Age of Industrial Technology." ■

THERE ARE **ENORMOUS GAPS** IN WHAT'S BEING TAUGHT, "**ESPECIALLY** IN WHAT I CALL INTEGRATIVE THINKING—**RELATING EVERYTHING TO EVERYTHING ELSE**—WHICH IS WHAT THE ENVIRONMENTAL AND INFORMATION TECHNOLOGY REVOLUTIONS ARE ALL ABOUT." — ***James Wines, Hon. AIA, head of the architecture department at Penn State University***

THINK OF OUR CARPET AS FUNCTIONAL ART.

Carpet from J&J Commercial is a graceful balance of aesthetics, combining a multitude of inventive designs and rich, original colors. And with a lifetime stain removal warranty, you know it will perform as great as it looks. Carpet from J&J Commercial is beautiful no matter how you look at it.

J&J COMMERCIAL

Carpet for spaces that work.

CIRCLE 43 ON INQUIRY CARD

800.241.4585 - www.jjcommercial.com

LIMITED *FLOORING*

CHOICES

CAN MAKE YOUR DESIGN

FALL FLAT

ON ITS FACE.

How can you take your design to the next step if you're confined to one company's limited choices? To see a concept through to completion requires a contractor who isn't restricted by manufacturer alliances and who has the selection and experience to fulfill your design. That combination perfectly describes your local, independent StarNet flooring contractor. Independent means an unrestricted selection of products. Local means a single contractor who's on site and personally committed to meeting your needs and deadlines. So if you want to rise to the occasion without stumbling, we'll be there for you every step of the way. To reach your local StarNet member call 1-800-787-6381.

STARNET®

INDEPENDENT FLOORING COOPERATIVE

www.starnetflooring.com

1-800-787-6381

ALABAMA

Terry Fry Flooring
Birmingham, (205) 870-4334

ARIZONA

Sun Country Floors, Inc.
Mesa, (480) 497-5011
Wholesale Floors
Phoenix, (602) 248-7878

CALIFORNIA

B.T. Mancini Co., Inc.
Milpitas, (408) 942-7900
Sacramento, (916) 381-3660
Floor Center
Salinas, (831) 424-2916
San Luis Obispo, (805) 544-0324
Floorcovering Consultants Grp.
Culver City, (310) 559-2588
Oceanside, (760) 758-4188
Harry L. Murphy, Inc.
San Jose, (408) 955-1100
Hoem-Schurba & Associates
S. San Francisco, (650) 871-5194
Howard's Rug Co. of San Diego
San Diego, (858) 558-3939
Majestic Floors, Inc.
Concord, (925) 825-0771
Universal Flooring Systems, Inc.
Huntington Beach, (714) 373-1136
Wallach's Commercial Flooring
Irvine, (949) 859-1009

COLORADO

Evans & Company, Inc.
Denver, (303) 573-4928

CONNECTICUT

BKM Floorcovering
East Hartford, (860) 528-9981
Milford, (203) 874-7754
Stamford, (203) 324-3188
Commercial Flooring Concepts, Inc.
Windsor, (860) 683-0673
R.D. Weis & Companies
S. Windsor, (860)528-9637

DELAWARE

Pala Tile & Carpet Contractors
Elsmere, (302) 652-4500

FLORIDA

Dixie Contract Carpet, Inc.
Jacksonville, (904) 296-0023
Jones Floor Covering, Inc.
Pensacola, (850) 476-1995
Spraggins Contract Interiors
Orlando, (407) 295-4150

GEORGIA

Bonitz Flooring Group, Inc.
Atlanta, (770) 952-4093
Southeastern Comm. Flrg., Inc.
Woodstock, (770) 591-9980

HAWAII

Island Flooring Co., Inc.
Honolulu, (808) 847-6577

IDAHO

Wall 2 Wall Commercial Flrg.
Boise, (208) 376-0136
Idaho Falls, (208) 523-5490
Sun Valley, (208) 726-0791
Pocatello, (208) 232-4226

ILLINOIS

Commercial Carpet Consultants
Des Plaines, (847) 298-9570
Mt. Prospect, (847) 640-8060
Mr. David's Carpet Service, Ltd.
Carol Stream, (630) 260-9400

INDIANA

Certified Floorcovering Svs.
Indianapolis, (317) 872-7926
Interior Finishes, Inc.
Osceola, (219) 674-9975
Strahm Group, Inc.
Fort Wayne, (219) 489-2537

IOWA

Commercial Flooring Company
Dubuque, (319) 582-4976

KANSAS

Artistic Floorcovering, Inc.
Lenexa, (913) 317-8623
CAP Carpet, Inc.
Topeka, (785) 273-1402
Wichita, (316) 262-3491
Interior Surface Company, Inc.
Olathe, (913) 397-8100

LOUISIANA

Craft-Croswell Contract
Harahan, (504) 734-1519
Royerre Commercial Carpets
Metairie, (504) 833-6331

MAINE

Paul G. White Tile Co., Inc.
Portland, (207) 797-4657

MARYLAND

Apartment & Business Flrg. Sys.
Baltimore, (410) 485-6790
Carpet Fair, Inc.
Baltimore, (410) 265-6633
CB Flooring
Columbia, (410) 381-5400
Frederick, (301) 662-6168
Suburban Floorcoverings
Landover, (301) 773-1600

MASSACHUSETTS

Allegheny Contract Flooring, Inc.
Woburn, (781) 935-1077
Business Interiors Flrcvg., Inc.
Woburn, (781) 938-9994
Mousseau Contract Flooring
So. Attleboro, (508) 761-8870
R.D. Weis & Co., Inc.
Allston, (617) 787-1009

MICHIGAN

Central Tile & Terrazzo Co., Inc.
Kalamazoo, (616) 375-1660
Floor Craft Floor Covering, Inc.
Clinton Township, (810) 468-9900

MINNESOTA

Multiple Concepts Interiors
Brooklyn Park, (612) 537-5006
Waite Park, (320) 253-5078
St. Paul Linoleum & Carpet Co.
Eagan, (651) 686-7770

MISSISSIPPI

Craft-Croswell Contract
Hattiesburg, (601) 296-1827
Ridgeland, (601) 856-8861

MISSOURI

William J. Zickel Co., Inc.
Fenton, (314) 343-8663
North Kansas City, (816) 471-5100
Springfield, (417) 831-3521

MONTANA

Pierce Flooring & Design Ctr.
Billings, (406) 652-4666
Bozeman, (406) 587-5428
Butte, (406) 494-3313
Great Falls, (406) 727-3832
Missoula, (406) 543-8224

NEBRASKA

Commercial Flooring Systems, Inc.
Omaha, (402) 592-4383

NEW HAMPSHIRE

A&E Flooring, Inc.
Hookset, (603) 625-1266
Merrimac Tile Co., Inc.
Derry, (603) 432-2544
Paul G. White Tile Co., Inc.
New Market, (603) 659-3223

NEVADA

B.T. Mancini Co., Inc.
Sparks, (775) 359-3007

NEW JERSEY

Flooring Technologies, Inc.
Whippany, (973) 386-1600
The Gillespie Group, Inc.
North Brunswick, (732) 940-7777
M.E. Sabosik Associates, Inc.
Pt. Pleasant, (732) 892-2800
Metropolitan Contract Carpets
Cherry Hill, (856) 795-1177

NEW MEXICO

Business Environments
Albuquerque, (505) 888-4400

NEW YORK

Associated/ACC International Ltd.
New York City, (212) 633-0250
Commercial Floors Beautiful
White Plains, (914) 949-1400
CTS Flooring
New York City, (212) 953-5133
Fraser/Gold Carpet Corp.
New York City, (212) 751-3455
Lane's Floor Coverings & Interiors
New York City, (212) 532-5200
National Floor Systems
Great Neck, (516) 498-9622
New York Carpet Corp.
New York City, (212) 736-1132
R.D. Weis Companies
Port Chester, (914) 937-9337
Victor (Rochester), (716) 924-0320
The Sposato Companies
Liverpool, (315) 422-1489

NORTH CAROLINA

Bonitz Flooring Group, Inc.
Charlotte, (704) 598-0094
Fayetteville, (910) 223-0025
Greensboro, (336) 996-9900
Raleigh, (919) 380-0084
Burton Floorcovering, Inc.
Pineville, (704) 583-0005
E.E. Wilson Floor Covering, Inc.
Lexington, (336) 357-5555

OHIO

OCP Contractors, Inc.
Holland, (419) 865-7168

OREGON

Fashion Floors
Medford, (541) 779-0996
Rubenstein's Contract Carpet
Eugene, (541) 484-1101
Portland, (503) 224-1007

PENNSYLVANIA

CTS Flooring
Limerick, (610) 489-6270
Facility Services Group, Inc.
Conshohocken, (610) 940-4370
Owen M. Bastian, Inc.
Allentown, (610) 798-9910
Trexlertown, (610) 798-9910
Sliwinski Flrcvg Group, Inc.
Huntingdon Valley, (215) 364-9661

RHODE ISLAND

Ruggieri Flooring, Inc.
Cranston, (401) 942-1700

SOUTH CAROLINA

Bonitz Flooring Group, Inc.
Charleston, (843) 556-2840
Columbia, (803) 799-0181
Greenville, (864) 288-3771
N. Augusta, (803) 279-6411

TEXAS

Corporate Care, Inc.
Houston, (713) 692-6300
Flooring Associates
Fort Worth, (817) 332-6977
Intertech Flooring
Austin, (512) 385-4574
San Antonio, (210) 650-9670
RWA Flooring Solutions
Bedford, (817) 858-6634
San Antonio Floor Finisher's, Inc.
San Antonio, (210) 341-7101
Texan Floor Service, Ltd.
Dallas, (214) 573-6363
Fort Worth, (817) 923-1759
Houston, (713) 956-9966
Vector Concepts, Inc.
Irving, (972) 399-1303
Fort Worth, (817) 595-7439

UTAH

Wall 2 Wall Commercial Flrg.
Ogden, (801) 621-2733
Salt Lake City, (801) 288-2794

VIRGINIA

Commercial Carpets of America
Alexandria, (703) 370-0000
Prestige Floors, Inc.
Virginia Beach, (757) 468-5600

WASHINGTON

Evergreen Commercial Flooring
Bellevue, (425) 883-8680
Rubenstein's Contract Carpet
Olympia, (360) 753-9156
Seattle, (206) 762-5610

WISCONSIN

Sergenian's Floor Coverings
Beaver Dam, (920) 887-7611
Madison, (608) 273-6300

STARNET®

INDEPENDENT FLOORING COOPERATIVE

www.starnetflooring.com

1-800-787-6381

CIRCLE 10 ON INQUIRY CARD

IT COULD BE WORSE.

YOU COULD BE HAVING OUR

ANNUAL CERTIFICATION EXAM.

Compared to our AISC–MB certification exam, your annual checkup is no sweat.

Each year, every member is required to pass a thorough engineering and manufacturing audit that combines a written submission and on-site inspections by an independent consulting engineer. How thorough is it? The auditors scrutinize order entry, purchasing, fabrication, and design and detail documents randomly selected from a list of 200 projects over the past six months. In addition, they probe the manufacturer's internal workings from receiving to welding to shipping.

These rigorous standards drive the quality, long-term integrity and design flexibility you demand in your metal building.

For your free AISC–MB certification brochure and more information on metal building systems, call or visit our web site today.

So, while this guy can be glad he doesn't have to sweat out our annual AISC–MB exam, you can be very glad your metal building systems manufacturer does.

MBMA
METAL BUILDING MANUFACTURERS ASSOCIATION

(216) 241-7333

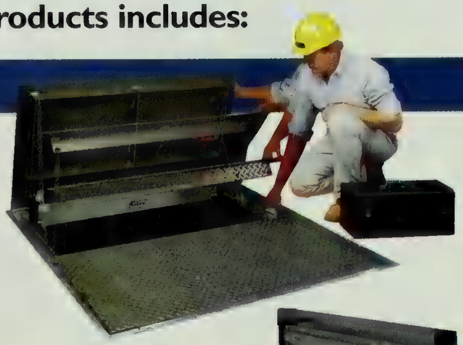
www.mbma.com

CIRCLE 52 ON INQUIRY CARD

Designed To Perform . . .
Built To Last

ince 1926, Bilco access products have featured innovative design, exceptional workmanship and superior performance. Bilco's line of access products includes:

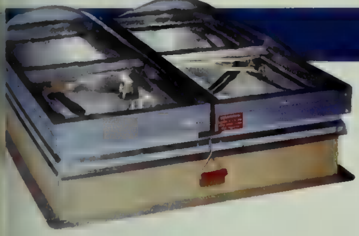
Floor, Vault and Sidewalk Doors



Heavy duty doors with counter-balanced covers ensure smooth, easy and controlled one-handed operation. A variety of models, ranging from Fire-Rated floor doors to doors reinforced for special loading conditions, are available.

Roof Hatches

Their rugged durability, ease of installation, effortless operation and weather-tight construction make Bilco roof hatches the industry standard.



Automatic Fire Vents

Bilco fire vents automatically release to vent heat, smoke and gases in the event of a fire. A wide range of UL-listed and FM-approved vents and a variety of options are available.

Better Living Basements™

Bilco's residential product line, including basement doors and window well systems, add daylight, ventilation, convenient access, and code compliance to basement areas, creating valuable lower level living space.

rom architects and specifiers to tradesmen and end-users, Bilco's reputation for high uality and product performance is unequaled.

Bilco®

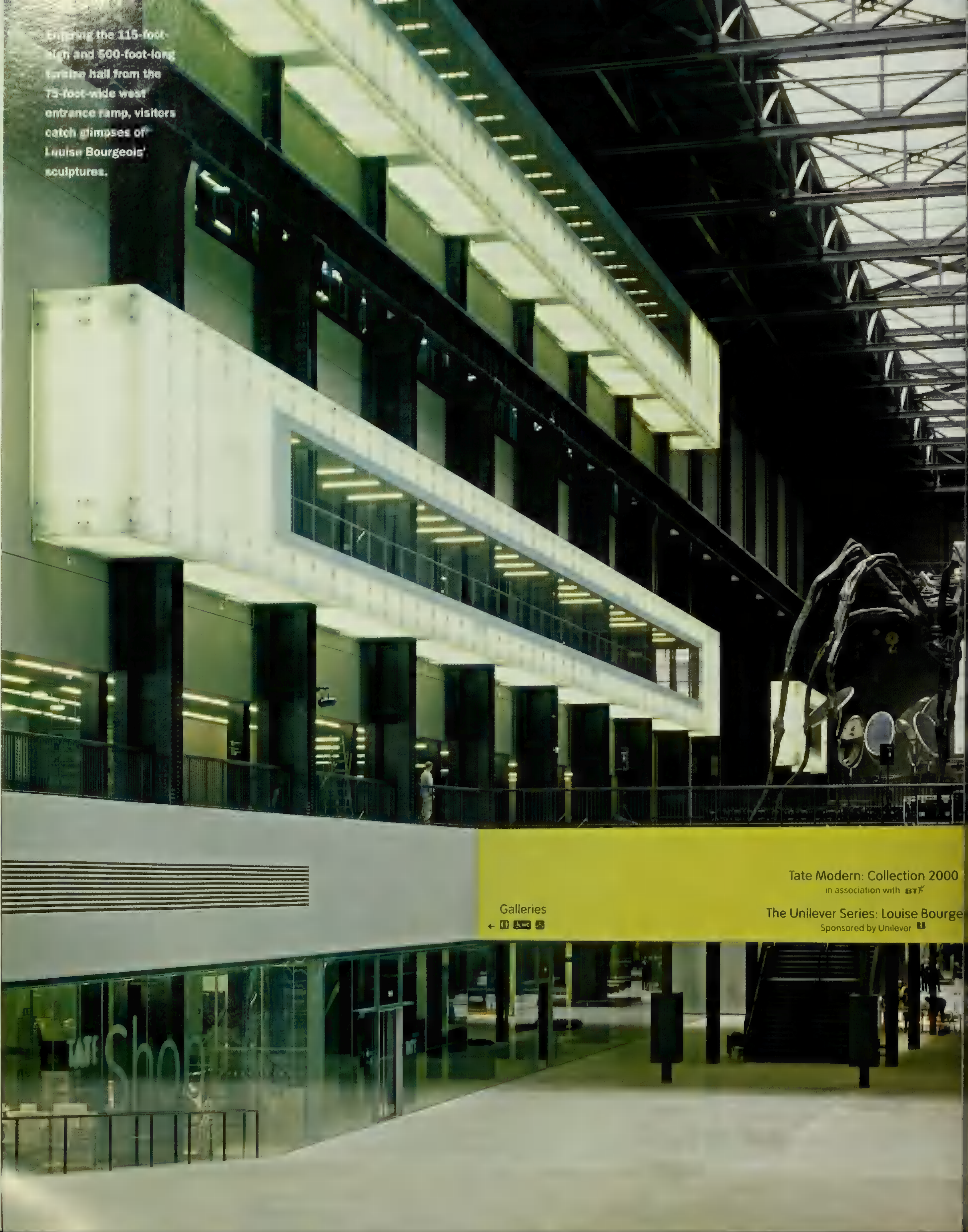
Since 1926

For more information, catalogs, or CD-Rom, call **(203)934-6363** *or log on to www.bilco.com*

CIRCLE 23 ON INQUIRY CARD

© 2000 The Bilco Company.

See us at the CSI Show Booth #1224


Tate Modern: Collection 2000
in association with BT
Galleries
The Unilever Series: Louise Bourge
Sponsored by Unilever
Shop

Entering the 115-foot-high and 500-foot-long turbine hall from the 75-foot-wide west entrance ramp, visitors catch glimpses of Louise Bourgeois' sculptures.

Herzog & de Meuron's architecture of luminosity and transparency transforms an old power station on the Thames into the new TATE GALLERY OF MODERN ART

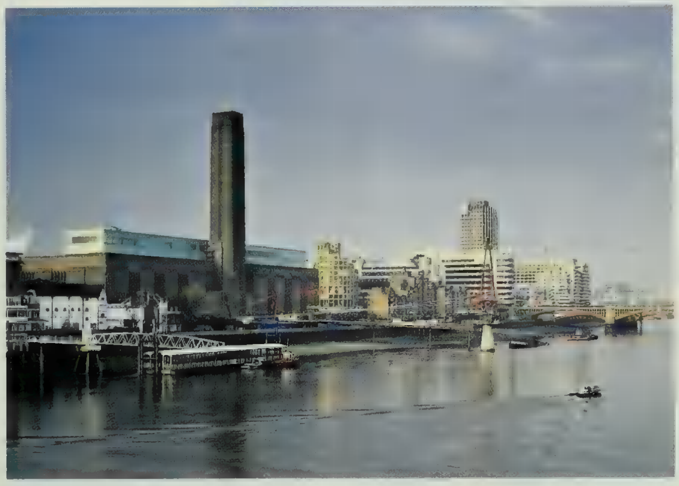
By William J.R. Curtis

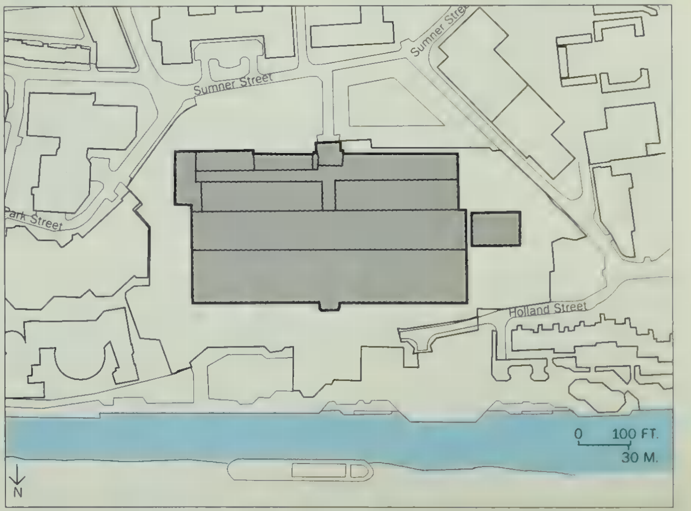
For anyone who has known London over the past three or four decades, it is impossible to separate the new Tate Gallery of Modern Art from the long-standing ambition of making the South Bank of the Thames accessible to the general public. Skillfully inserted into the body of the Bankside Power Station (designed by Giles Gilbert Scott in 1947), the new institution faces St. Paul's Cathedral, to which it will soon be linked via the Millennium Footbridge by Norman Foster in collaboration with Anthony Caro, and Ove Arup + Partners. With its vast interior turbine hall now a stripped-down public space and its top rising to a new oblong glass volume that glows at night, the Tate Modern addresses the life of the river and entices the passerby. It represents one of the few real attempts since the completion of Denys Lasdun's National Theatre, nearly a quarter century ago, to provide London's South Bank with a gathering place.

The new Tate concentrates on international modern art and supplements the original Tate Gallery at Millbank, which will now focus on British art from 1500 to the present. (The museum also has satellite facilities in Liverpool and at St. Ives in Cornwall.) The Tate Modern, based on Herzog & de Meuron's 1995 winning competition scheme, is a remodel of a 370,000-square-foot industrial structure. Part of the solution's ingenuity lies in the way the four Herzog & de Meuron partners—Jacques Herzog, Pierre de Meuron, Harry Gugger, and Christine Binswanger—have preserved the feel of the old fabric while linking it to its surroundings through such transitional areas as a lower-level cafe and shop.

Penetrated at several places, the building's lower floors open up transparent zones that connect visually with a newly created riverside walk. The cafe and a shop are contained here, but there are also places where people can simply enjoy seeing and being seen. In effect, Herzog & de Meuron's intervention creates a framing device that intensifies the social theater of day-to-day life in a major metropolis. Truly a public institution, the Tate Modern will open most of its galleries to visitors free of charge. The institution and the museum imply through architecture and free offerings that art should be integral to people's existence, whatever their background or income.

William J.R. Curtis is a historian and the author of Modern Architecture since 1900 *(Phaidon Press, 3rd ed., 1996). He is currently preparing an exhibition of his own drawings for the Museum of Finnish Architecture in Helsinki.*





Project: *Tate Modern, Bankside, London*
Architect: *Herzog & de Meuron—Jacques Herzog, Harry Gugger, partners in charge; Pierre de Meuron, Christine Binswanger, design team; Michael Casey, project architect*
Associate architects: *Sheppard Robson + Partners*
Interior designers: *Herzog & de Meuron with Office for Design; Lumsden Design Partnership (retail)*
Engineers: *Ove Arup + Partners—John Hirst, Tony Marriott*
Consultants: *Kienast Vogt + Partner (landscape)*
Construction manager: *Schal International Management Ltd.*

Herzog & de Meuron inserted an architecture of abstraction into the old power station's existing fabric (left). The main entrance is from the west ramp (below). A new pedestrian bridge by Norman Foster and others will connect the museum to the north bank of the Thames (bottom).

The old Bankside Power Station functioned as a three-part operation with a centrally located turbine hall sandwiched between a boiler house on the north (or river) side and a switch house to the south. Herzog & de Meuron kept this organization, turning the turbine hall into an eight-story atrium, converting the boiler house into galleries, and leaving the electrical switch station for future expansion. Visitors can enter the Tate through central doorways on the second level of the north (Thames) side, or take a broad ramp at the west end down to the first level, where a museum shop and educational area are located.

Exploiting the preexisting structure's capacity for wide spans, the architects supplied a range of exhibition and circulation spaces, contrasting in kind and size. In some cases, light enters from the sides and in others, from above. Herzog & de Meuron liberated the entire volume of the old turbine hall and turned it into a species of covered public street, which may function at one end for the display of giant sculpture. The architects even retained an original gantry crane, which can move the length of the hall to install large-scale artwork.

The building's first two floors accommodate a shop, cafe, auditorium, and educational spaces. Level 3 contains a suite of galleries for exhibiting works from the Tate collection. The next level offers a break in the sequence, an area that converts into flexible loft space for temporary exhibitions. Benefitting from generous access to daylight, Levels 5 and 6 provide a rich mix of rooms of varying dimensions—the most impressive being double-height spaces with clerestory windows. Finally, at Level 7, a long, glass box contains a restaurant and meeting rooms.

The "factory of culture," is a recurrent 20th-century theme that has relied on populist rhetoric and high-tech architectural exaggerations (often with splayed structures or ventilating tubes in the manner of Paris' Pompidou Center) to convey its cultural message. Such buildings sometimes require a secondary (interior) architecture to function properly for exhibitions. Beginning with a truly industrial building, Herzog & de Meuron honored the power station's original character by preserving and leaving naked the existing fabric and inserting into it a new framed structure that modulates different qualities of illumination from both daylight and fixtures. As in several of their earlier buildings (such as the Goetz Gallery in Munich), the architects reduced gallery-lighting contraptions to a minimum, preferring to rely on the translucence of sandblasted glass or the subtle, restrained effects of gauzes and screens, combined with visually weightless white walls, ceilings, and partitions. This architecture heightens perception without impeding the experience of looking at the art.

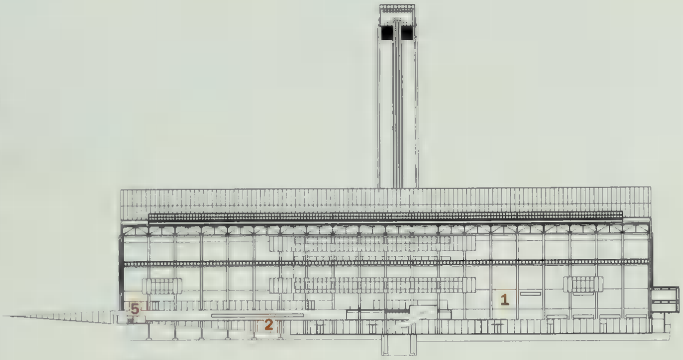
THE MUSEUM'S CONNECTION TO THE CITY IS CONTINUALLY REINFORCED BY FRAMED VIEWS AND HORIZONTAL OPENINGS.

The Tate is one of the rare Herzog & de Meuron projects to develop an interior promenade, in this case using perspectival vistas to link foreground and background. Occasionally, the visitor may step out of the gallery sequence to discover glazed walkways projecting over the great turbine hall or above the city itself. The museum's connection to London is continually reinforced by framed views of St. Paul's Cathedral through horizontal openings on the north facade. These broad vistas (contrasting with views through the original vertical strip windows, retained elsewhere in the building) prepare the visitor for the stunning all-around views from the restaurant and public areas in the crowning glass box. Here, the theme of social transparency achieves full expression.

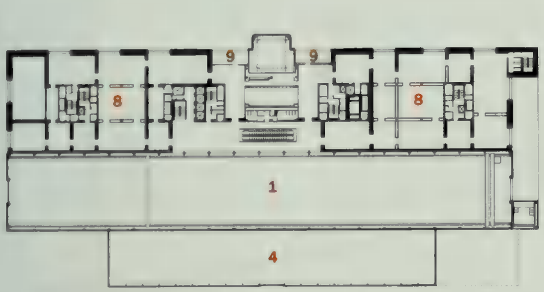
The Tate Modern is organized to avoid the usual narrative routes that run chronologically from one period to the next. Instead, the

1. *Turbine Hall*
2. *Shop*
3. *Education*
4. *Switch House*
5. *Cafe*
6. *Auditorium*
7. *Seminar*
8. *Gallery*
9. *Terrace*
10. *Restaurant*

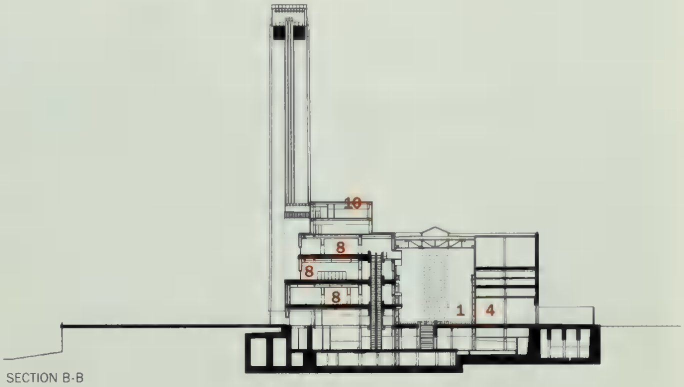
The architects worked within the power station's tripartite organization, turning its turbine hall into an atrium and converting the boiler room into modern gallery space. The old switch house remains for future expansion.



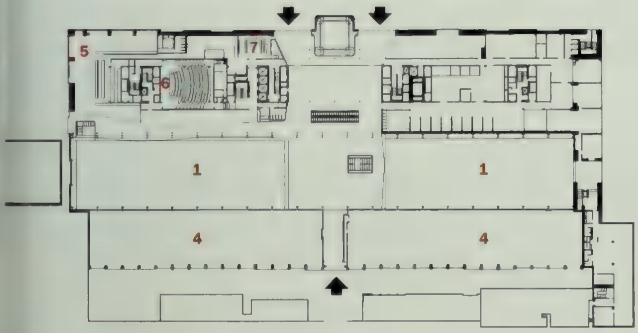
SECTION A-A



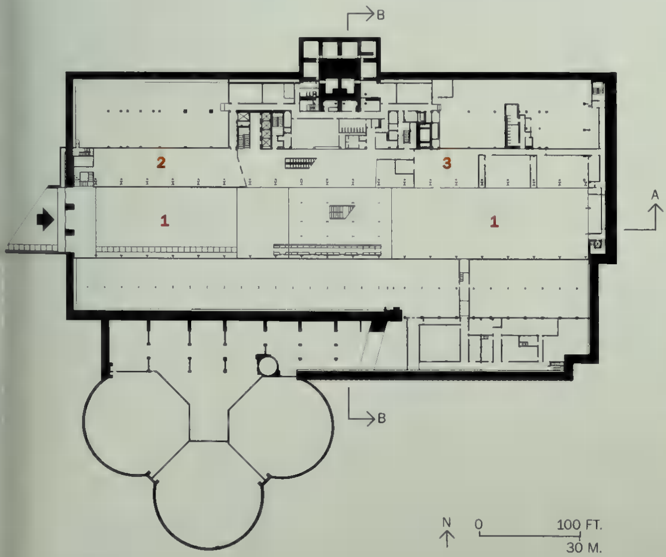
LEVEL 4



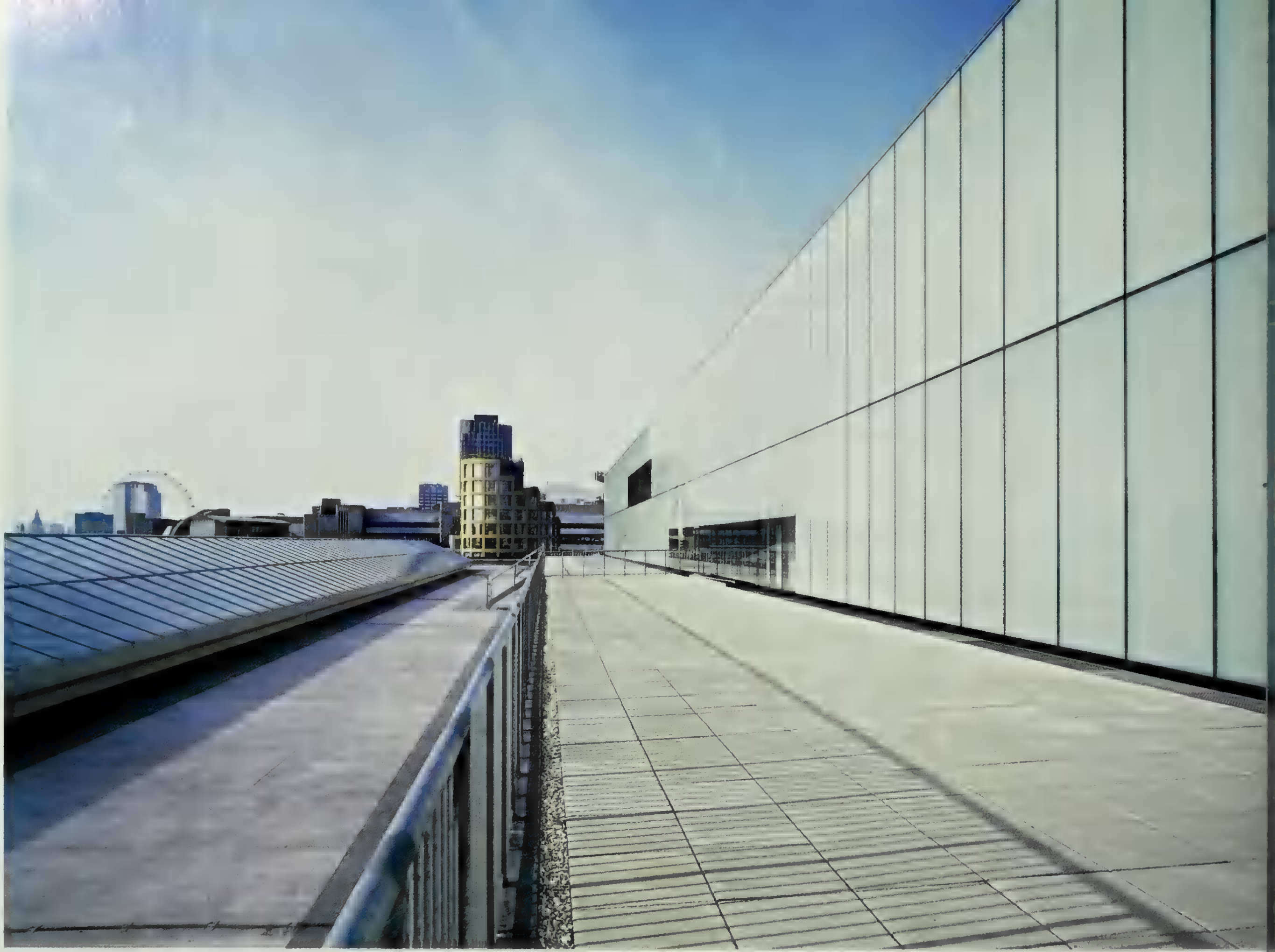
SECTION B-B



LEVEL 2



LEVEL 1



The $214 million project includes a new glass addition on the seventh floor for a restaurant and meeting rooms (top). Escalators (above) lead to the galleries in the former boiler house (right). The sculpture is by Barbara Hepworth.

groupings correspond loosely to such genres as the human figure, still life, and landscape. Comparison and analogy are central to this method, and the rooms are well placed and proportioned to admit lateral visual links and interesting juxtapositions. The walls have no moldings, and interior skylight surfaces are set flush with the ceilings. Planarity is a constant characteristic, which paradoxically becomes almost too insistent, despite the intended restraint. Among the works now on the walls, large paintings, drawings, and hangings seem to gain most from this treatment, while smaller ones risk being swallowed up by the vast areas of white above them.

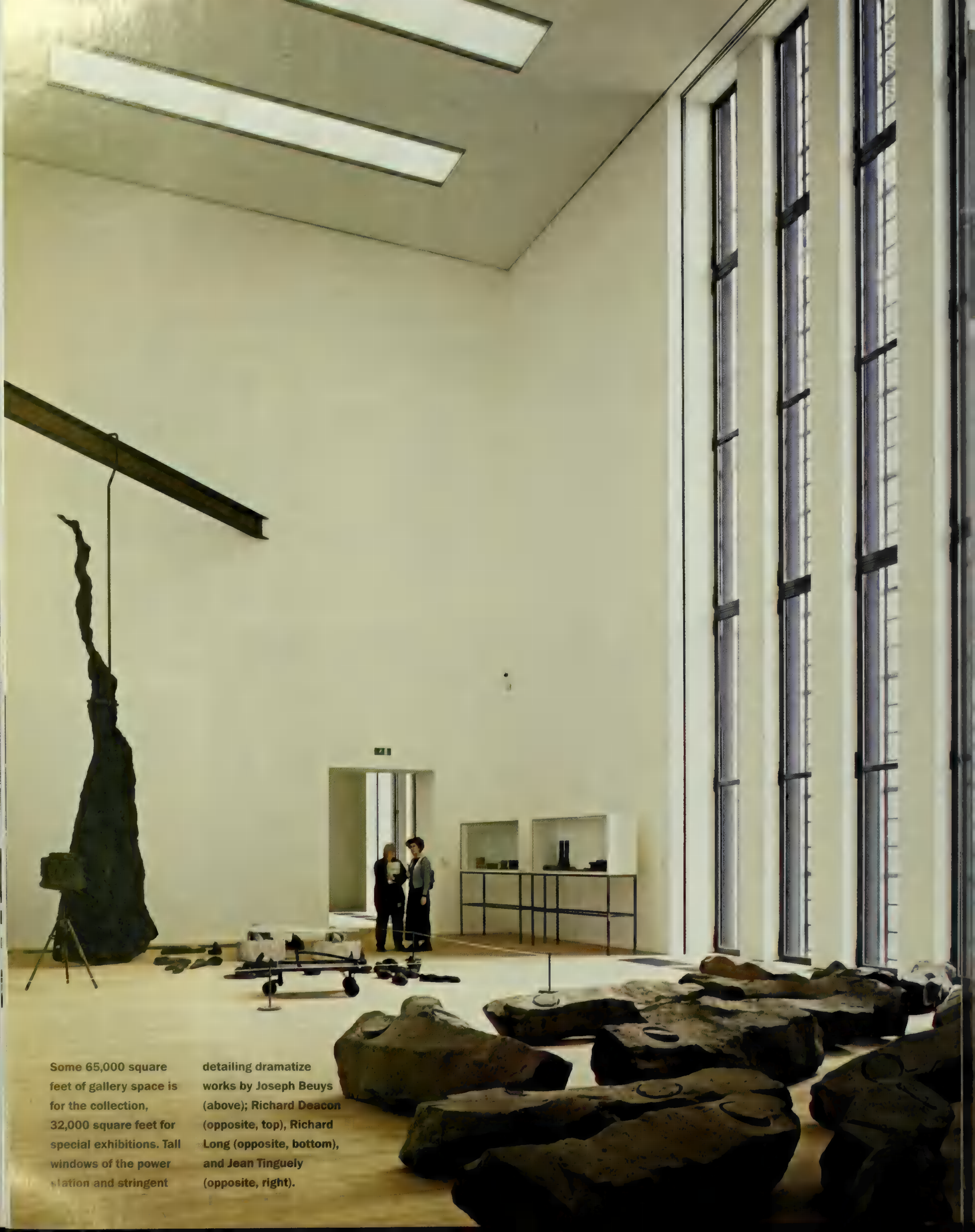
Until now, London has been without public exhibition galleries truly suited to the display of large 20th- and 21st-century works of art. The intention at the Tate Modern has been to create viewing conditions ideal for several scales of art, while also supplying many more neutral places for performance art and other avant-garde installations. The aesthetic of Herzog & de Meuron's architecture resists an atmosphere of "official" art and cuts art-museum rhetoric to a minimum (even the entrances are so downplayed as to be almost invisible), but, in some strange way, the building still ends up evoking standard conventions for the display of recent art. The cool, white surfaces of the walls, the deliberately unfinished and scuffed oak plank floors, and the glimpses of bare girders above the old turbine hall suggest a middle ground between the sanctioned world of artists' lofts (often occupying old industrial structures) and the up-to-the-minute marketing spaces of minimalist commercial galleries. In spite of the puritanical stance, the atmosphere still suggests that the consumption of art is an obligatory feature of modern mass society.

Luminosity, transparency, and materiality are the guiding concepts of Herzog & de Meuron's design, but these qualities are fused by means of a pervasive abstraction. The Tate Modern makes much of contrasting effects of glass. In this building, glass is usually detailed to read as uninterrupted plane. In places, it is sandblasted to take on a glowing translucence. Elsewhere, it appears transparent, dissolving barriers between spaces. In others locations, the glass becomes a semireflective surface: a substance that is both there and not there. As the eye moves around the interiors, it grows used to seeing other parts of the building through actual or implied layers. At times, these layers and lenses heighten the sense of things, as when one glimpses people moving up the main escalators through a surface that also reflects oneself. Inevitably, the varying degrees of luminosity affect the sense of visual weight. Carefully adjusted details give the impression that the new structure is hovering and illuminated: an ensemble of suspended volumes of light.

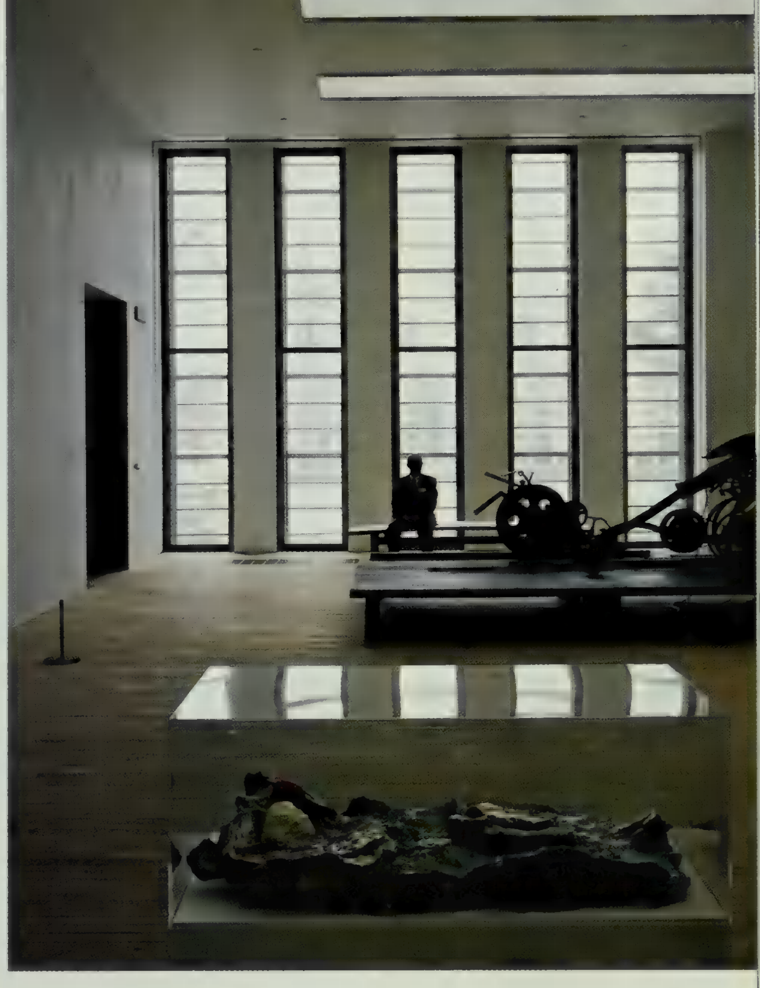
SMALLER WORKS OF ART RISK BEING SWALLOWED BY THE GREAT EXPANSES OF WHITE ABOVE THEM.

Herzog & de Meuron does not articulate materials for purely visual effect but rather to reveal something of their mystery and ambiguity. While optical and tactile qualities, fused with geometry, often enhance the presence of their surfaces, these qualities can also invoke the immaterial. "Almost nothing" was Mies van der Rohe's phrase, and Herzog and de Meuron, too, seems drawn to an aesthetic of extreme reductivism. But theirs is a simplicity that relies on distillation. Clearly their architecture has been nourished by a range of influences from late-20th-century visual culture, including conceptual and minimalist art. This makes them particularly well suited to providing a framework for recent artistic production. Nonetheless, they have taken some pragmatic risks in the material translation of their ideas. The intentionally unfinished, rough oak floors will take on every splash and stain and, over time, may wear unevenly, in a distracting way revealing the paths traced by the majority of people as they wander from gallery to gallery. For the moment, the plain

A vivid contrast to the dark metallic surfaces and fluorescent lighting of the circulation areas is the auditorium on the second level. Totally drenched in red, the conference space seats 260.



Some 65,000 square feet of gallery space is for the collection, 32,000 square feet for special exhibitions. Tall windows of the power station and stringent detailing dramatize works by Joseph Beuys (above); Richard Deacon (opposite, top), Richard Long (opposite, bottom), and Jean Tinguely (opposite, right).



white walls and occasional smooth concrete floors are impressive in their "silence," but one hopes they will not reveal fissures as the building settles and ages. The neatly detailed skylights on the exterior—especially those that are laid into flat roofs and continue the theme of planarity—will need to withstand years of insistent London rain.

Herzog & de Meuron's solution is valuable, in part, for its capacity to respect the old power station while ingeniously transforming it into a vast hangar for cultural and social functions. The idea of treating the new structure as a relatively neutral secondary framework distinguished this scheme from the majority of competition entries in 1995, which took a more aggressive approach. But even Herzog & de Meuron's quiet transformation of the old building left the firm with the problem of unifying its insertion in a coherent manner. Here, it must be said, the results are mixed. The galleries work well on the inside, but their glazed boxes projecting into the void of the old turbine hall seem forced, even precious, without sufficient presence to stand up to the hall itself. They seem relatively feeble in expressing the project's crucial idea of floating volumes of light. By contrast, the glazed oblong volume atop the building is more successful. Even an architecture devoted to planar surfaces and the perceptual character of materials may need to deal more cogently with questions of overall order, and even hierarchy, of spaces and forms.

HERZOG AND DE MEURON USE LIGHT AS ONE OF THEIR PRIMARY MATERIALS IN THE GALLERIES AT THE TATE.

In recent years, Herzog & de Meuron has succeeded in creating alluring building skins and surfaces, sometimes touching on hermetic connections between geometric order, materials, and features of the natural world. The firm has explored a stark aesthetic, which owes something to the industrial vernacular and something to the "new objectivity" of the 1920s. But it has not always shown itself to be so interested in the larger physical sense of architectural form or in the power of circulation as a generating force in a design. The Tate Modern seems to reveal these hesitations. It is sensitive to the very act of looking, but less so to the act of moving about from place to place within a larger form. While the galleries afford interesting perspectives and even *(continued on page 242)*

Sources

Curtain wall: *Bug AluTechnic AG and Felix UK Ltd.*

Glazing: *Eckelt Glas, Saint Gobain Glass*

Sliding doors: *Geze Doors*

Acoustical ceilings: *Astec Projects*

Interior ambient lights: *T. Clarke*

Elevators, escalators: *Otis*

Resilient flooring: *MPG*

Demountable partitions: *R & S*

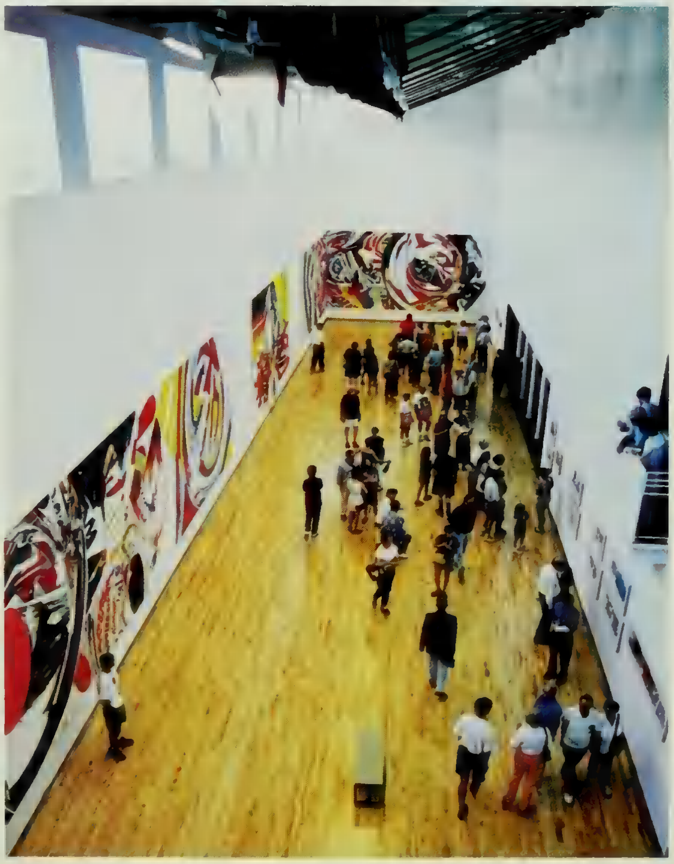
Metal doors: *Martin Roberts (Ingersoll Rand)*

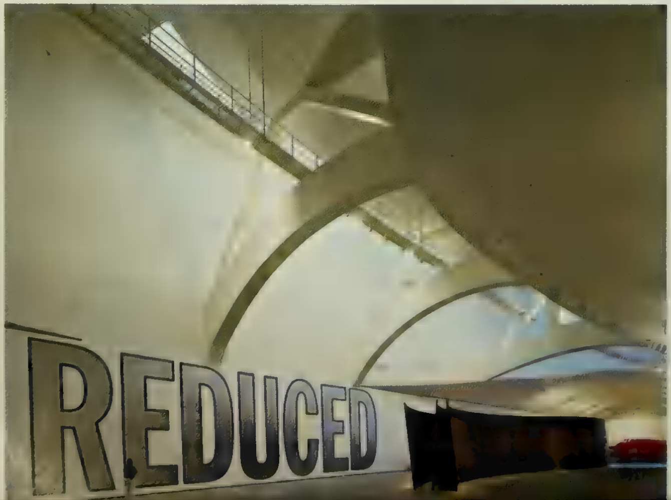
Wood doors: *Timbet*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

ANALYSIS A museum critic examines Herzog & de Meuron's **TATE MODERN** in the context of other spaces devoted to the display of art

The Tate Modern in London is discussed as part of a trend toward exhibiting art in large, raw spaces renovated for this purpose, including Herzog & de Meuron's own previous efforts. Questions arise regarding the size and character of the ideal museum setting.





At Mass MoCA, by Bruner/Cott, some halls (left, top) display art against white drywall, lighted by clerestories. In the Guggenheim Bilbao, Frank Gehry's "fish hall" was inspired by industrial architecture.

By Victoria Newhouse

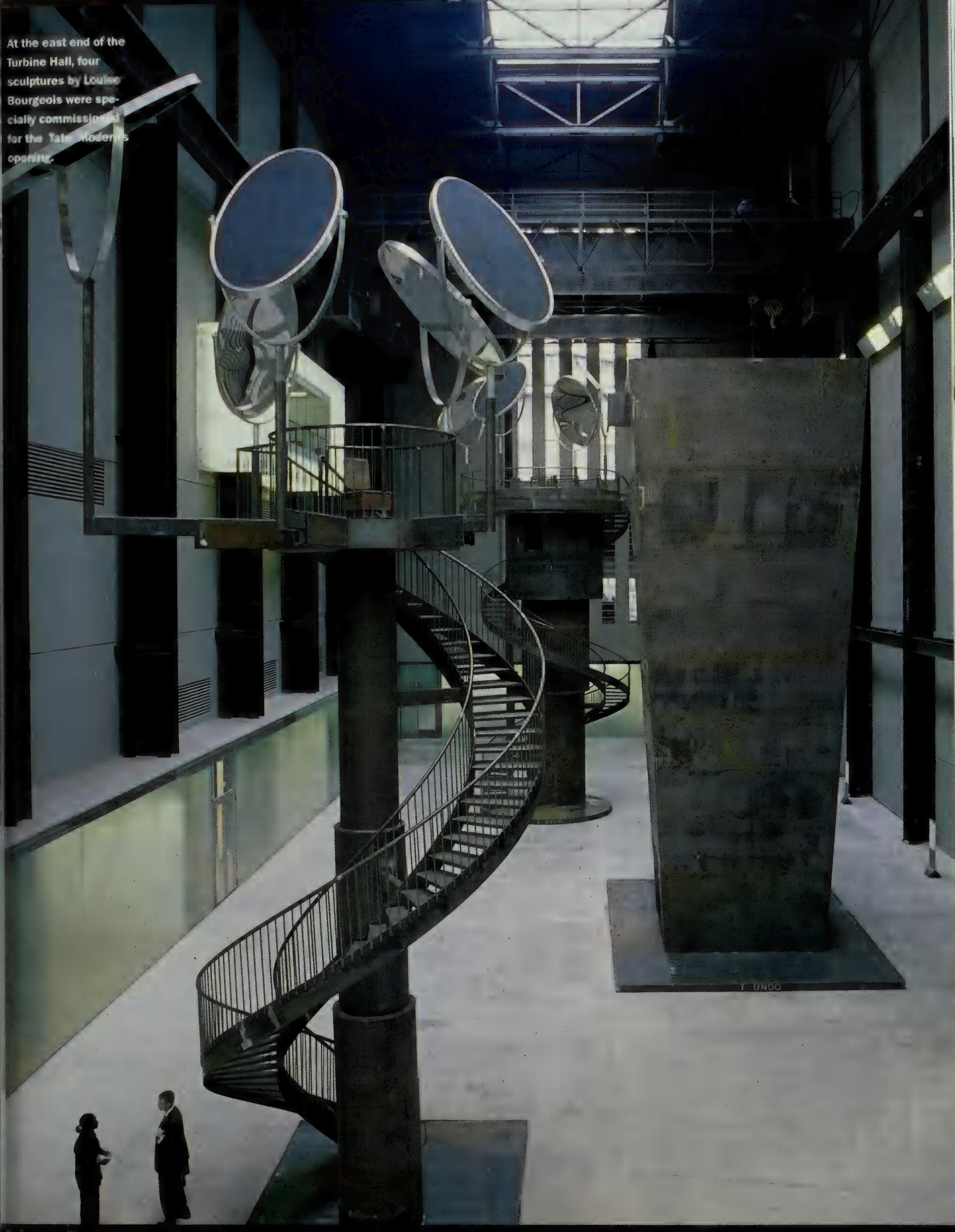
Herzog & de Meuron's Tate Modern is unlike any previous adaptation of an industrial building to the service of art. The combination under one roof of pared-down new galleries and a rough industrial setting marks an important step in the ongoing dialogue between sacred (spare, self-effacing) and profane (real world) museum spaces. In the tripartite Bankside power station, designed by Giles Gilbert Scott (1947-63), entirely new architecture has been inserted in the former Boiler House to create a sacred precinct, while the Turbine Hall has remained intact as a more contextual environment. The third part, an electricity switch station, will be turned into galleries at a later date.

The London museum's 130,000 square feet of flexible exhibition space is, at present, divided into 80 galleries on three levels. They are differentiated from one another by sophisticated plays on proportion, walls in varying shades of gray among predominantly white ones, and skillful ways of introducing daylight. One source of daylight is the factory's narrow, floor-to-ceiling window strips that also allow spectacular views of St. Paul's across the Thames. Floors of untreated oak or concrete, and heavy metal air vents are the only acknowledgement of the container's lowly origins.

The reverential, even puritanical, new galleries for the Tate Modern's vast holdings are offset by the gritty Turbine Hall. Measuring 500 by 75 feet, and 115 feet high, the huge hall offers a realistic contrast to the galleries' abstracted quality. The Hall's east end, facing the main entrance at the west, and overlooked by a broad platform-bridge, is dedicated to large contemporary installations, such as the towering sculptures created by Louise Bourgeois for the museum's inauguration. Bourgeois says she was inspired by the Turbine Hall: "It gave me a chance to express myself more fully."

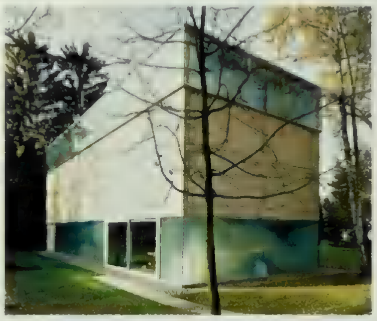
Large industrial buildings became popular in the 1970s with artists who preferred to exhibit in mundane working spaces, such as Manhattan's Soho lofts, rather than in the rarefied white cube

Victoria Newhouse is the author of Towards a New Museum *(Monicelli, 1998), and wrote about Daniel Libeskind's Felix-Nussbaum-Haus in RECORD [January 1999, page 90].*

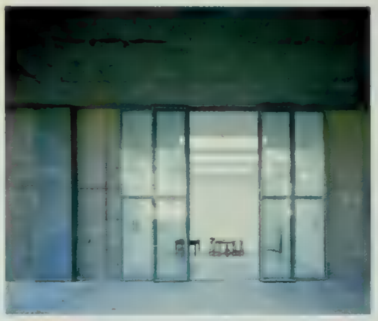


At the east end of the Turbine Hall, four sculptures by Louise Bourgeois were specially commissioned for the Tate Modern's opening.

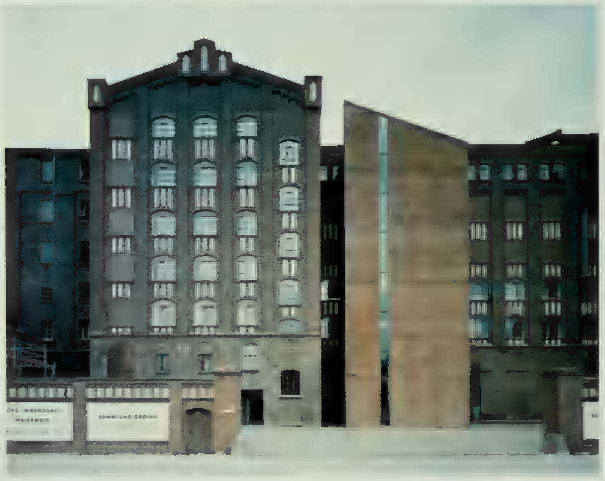
ttings typical of museums and galleries. As often happens, the establishment soon absorbed what had started out as a radical alternative to it. Some museums took over existing structures—of which Frank Gehry's Temporary Contemporary, now the Geffen Contemporary, in Los Angeles (1983) is an early example. Others, like the Centre Culturel Georges Pompidou in Paris (1977), designed by Renzo Piano and Richard Rogers, incorporated aspects of these structures into new buildings. The Bankside power station's industrial quality was a key attraction for Sir Nicholas Serota, the Tate Gallery's director, who says that over the last 20 years "some of the best installations of contemporary work have been in converted warehouse buildings." Nonetheless both the enormous scale of the Turbine Hall, and the elimination of almost all traces of the station's origins in the new galleries, distinguish it from similar adaptations.

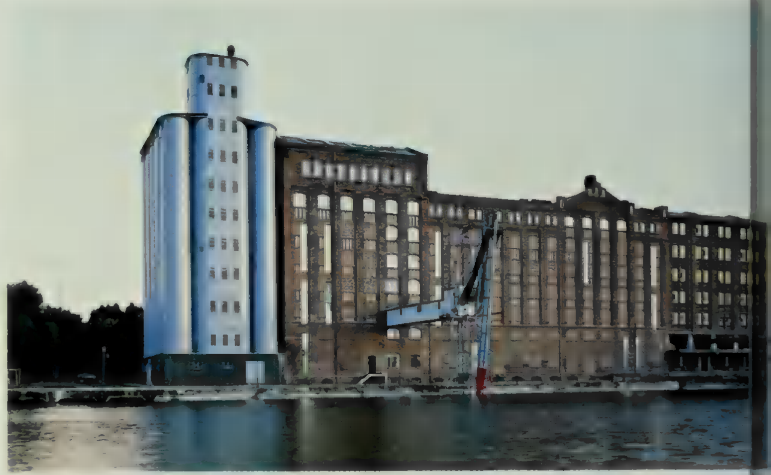

Herzog & de Meuron's Goetz Collection, Munich, 1992.

The London museum is the most recent art exhibition space by the firm of Herzog & de Meuron, which includes Jacques Herzog, Pierre de Meuron, Harry Gugger, and Christine Binswanger. The Tate is part of the architects' ongoing development of neutral art environments, in which elements from one project inform others. Created with several artists, the spaces are, in the architects' words, "as simple and obvious as possible," consisting of sparse, rectilinear rooms in which art can be seen straight on with no distractions.

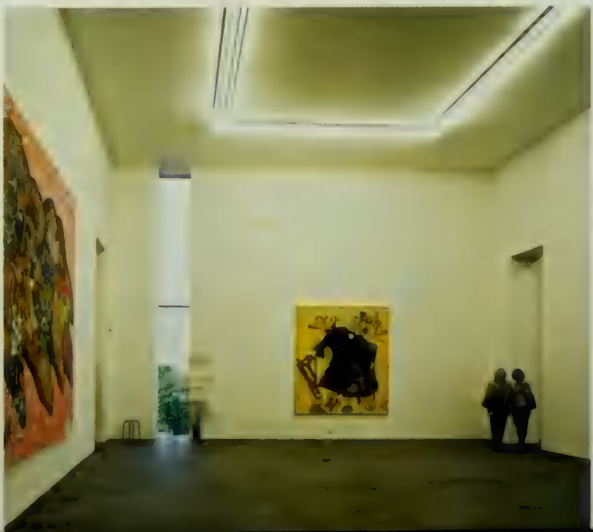

Herzog & de Meuron's Remy Zaugg studio, Mulhouse-Pfastatt, France, 1997.

Among the first of these Herzog & de Meuron environments is the small, 7,530-square-foot, rectangular, concrete-and-glass container for the Goetz Collection in Munich (1992). The building's milky glass crown anticipates the Tate Modern's, as do its second-level clerestories. At the Munich gallery and at the Rémy Zaugg studio in Mulhouse-Pfastatt, France (1997), electrical and daylight, respectively, pass through translucent slabs of glass, inserted flush into rectangular openings in the ceiling; these elements also reappear, with more complex light, at the Tate Modern. This system is also planned for Herzog & de Meuron's new building at the de Young Museum in San Francisco.





The Küppersmühle Museum, Duisburg, Germany, renovated by Herzog & de Meuron in 1999, was formerly a 1916 mill. Old windows are visible in one gallery (opposite); this is the exception, however, for elsewhere, they are bricked over. In some galleries (right), peripheral walls are incised with thin floor-to-ceiling slots to provide daylight and exterior views of the suburban inland waterways, on which the museum faces (above, right).



Herzog & de Meuron's reinvention of the London power station as an art museum approximates most closely its refurbishing of a 1916 mill in Duisburg, Germany. The 52,000-square-foot Küppersmühle Museum, housing the developer Han Grothe's collection, was unveiled last year. While the incorporation of much of the historic mill's load-bearing structure into the renovation differs from Tate Modern (where the space has no interior divisions), the two projects are alike in that both largely replace the original with new architecture.

In compliance with Grothe's wishes, Küppersmühle's ceilings are uniformly 20 feet high throughout the museum's three levels. Black Turkish slate floors, white rectilinear walls, bare fluorescent ceiling tubes (supplemented by other light), are consistently used throughout, along with the architects' preferred placement of doorways at the corners. Enfilades of the tall, narrow portals on the middle level give an element of drama to the no-nonsense environment, which suits the austerity of a permanent collection of German art from the post-war to the present. Contrasting effectively with the sober interiors is a terra-cotta-colored concrete tower with a sensuous, curvilinear stair, added to the mill's exterior.

WHETHER MEASURED IN TERMS OF A SINGLE GALLERY OR OVERALL SPACE, BIGGER IS WIDELY CONSIDERED BETTER.

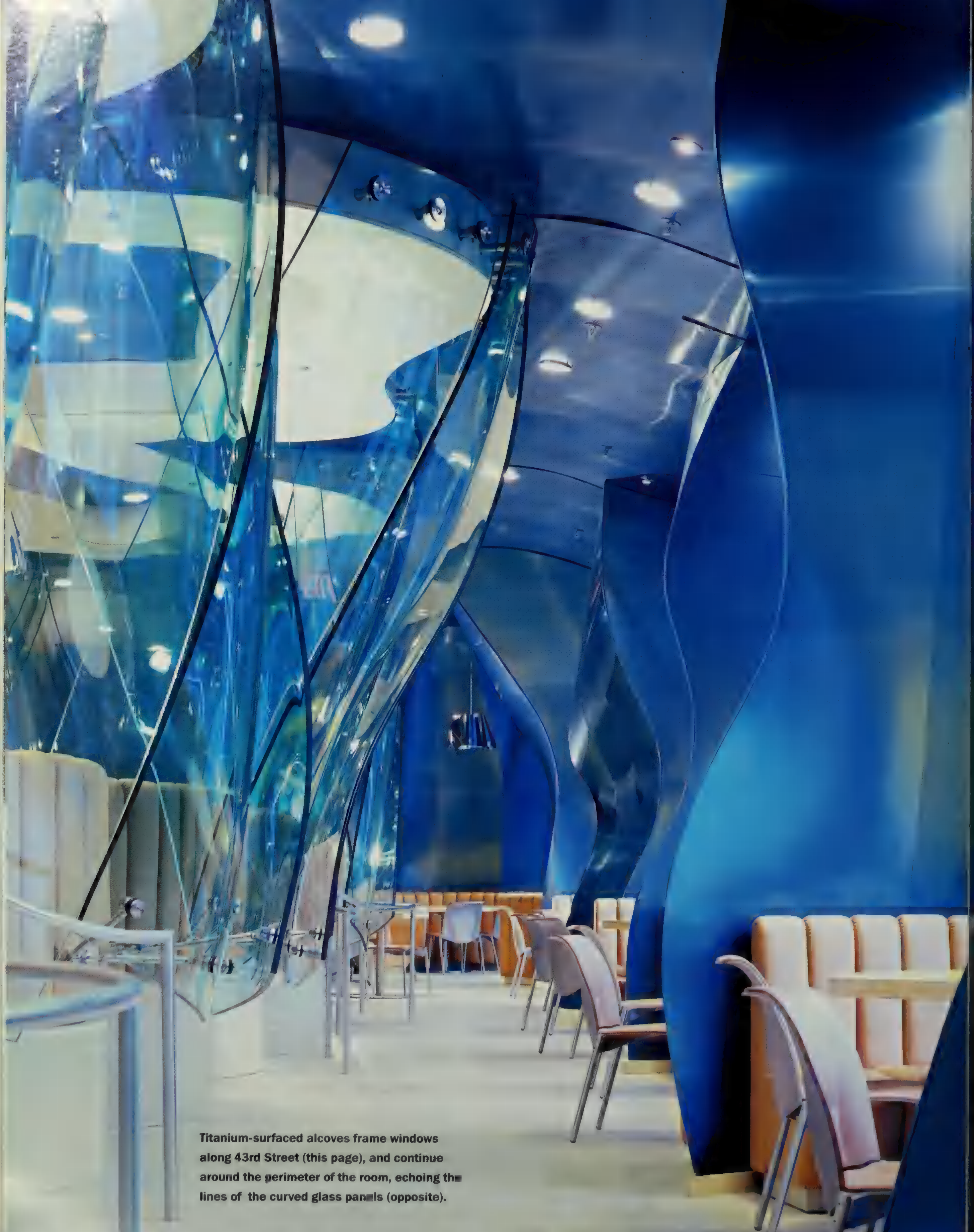
Quite different from this complete reconfiguration of an alternative space is the more usual approach of the new Mass MoCA's 270,000-square-foot renovation of 19th-century mill buildings in North Adams, Mass. (1999)—also intended to spark economic recovery. There the architects, Bruner/Cott & Associates of Cambridge, Mass., (whose tight budget of $60 per square foot included only minimal floor loading, climate and light control) retained as much as they could of the original structure. Old maple floors, a post-and-beam frame, and layers of mottled paint on brick walls were left in place, while many of the ceiling timbers were recycled. Some floors were removed to create double-, and triple-height galleries.

Mass MoCA's largest space measures 320 feet by 60 feet with existing trusses painted white to create the impression of a 26-foot-high ceiling below the higher pitched roof. Like several other tall exhibition spaces, it can be viewed from a mezzanine (others have balconies as well), and drywall painted white has replaced brick walls. Two levels of closely positioned windows were retained, but can now be covered partially to make clerestories.

The variety of spaces and of natural light are among Mass MoCA's most attractive features. When original elements had to be replaced—for example, old ceiling beams substituted by steel trusses and rods—details are occasionally fussy, and preservation (especially of paint traces) is sometimes too folksy. Overall, however, the mill buildings' architecture—like that of its many precursors, such as Frederick Fisher's P.S. 1 in Long Island City, the Temporary Contemporary in the U.S., and Urs Raussmüller's Hallen fur neue Kunst in Schaffhausen,

(continued on page 244)

Mass MoCA, (this page) in North Adams, Mass., was renovated in 1999 by Bruner/Cott & Associates of Cambridge, Mass. Much of the original structure of the 19th-century mill buildings remains. Inside, the post-and-beam frame is exposed, and mottled paint on the brick left in place, as shown in the installation of Joseph Beuys' "Lightning with Stag in its Glare"(above). It is striking to see the same work of art from an edition of six, in two different settings, Mass MoCA and the Tate Modern (right).



Titanium-surfaced alcoves frame windows along 43rd Street (this page), and continue around the perimeter of the room, echoing the lines of the curved glass panels (opposite).

Frank **Gehry** conjures up a sinuous titanium and glass interior world for the **CONDÉ NAST CAFETERIA** at Four Times Square in New York City

By Suzanne Stephens

Everyone is calling the Condé Nast cafeteria "sculpture." But that does architecture a disservice. After all, it is a functioning space you experience perceptually and kinesthetically. As you meander past curvilinear banquettes wrapped in transparent cocoons of undulating glass, or sit in alcoves embraced by waves of blue titanium, your senses—visual, haptic, and motor—are all put into play.

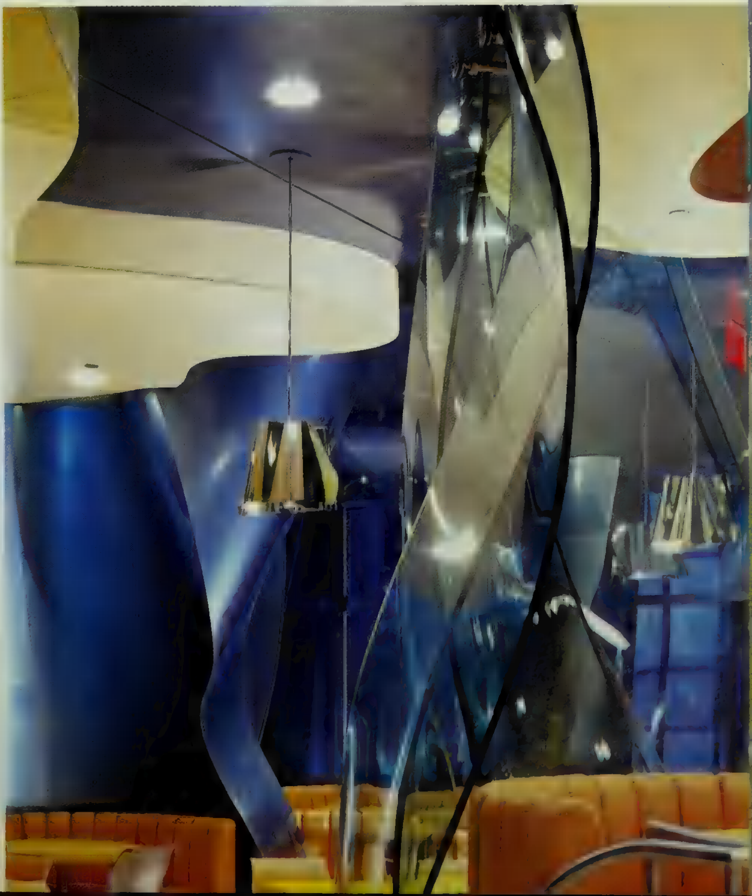
Similarly, calling Frank Gehry a "sculptor" ignores his role as an architect. Not only has Gehry addressed the cafeteria program imaginatively, but he has once again pushed the boundaries of technology in his continuing exploration of materials. This time he has done it with glass. Titanium, the shiny and evanescent star attraction of Gehry's Bilbao Guggenheim, is still the major stage presence. But glass, rendered as clear spun sugar, has stolen the show. It is as if the early-20th-century expressionist architect Bruno Taut (who fantasized in glass as well as steel and concrete) got together with Hermann Finsterlin (who concocted boldly organic forms) and begot Gehry to carry out their visions.

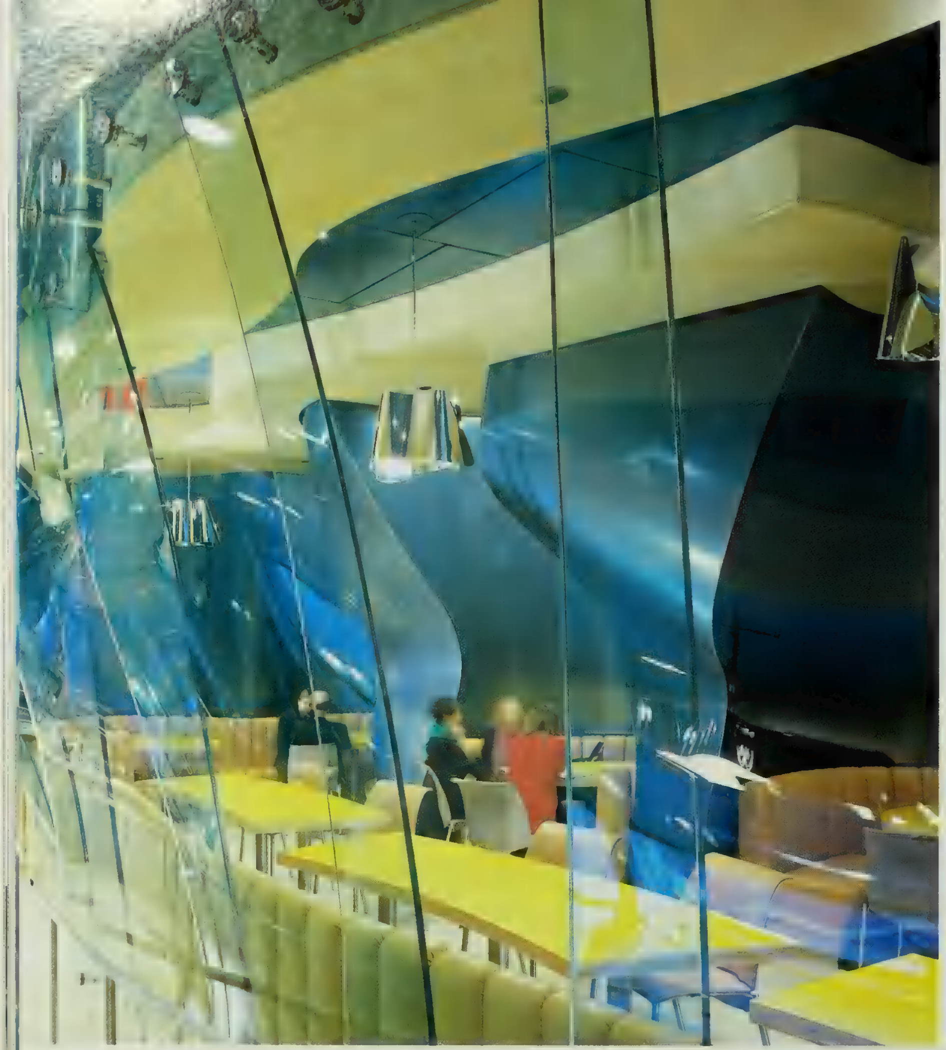
With the Vontz Center at the University of Cincinnati [February, page 80], Gehry showed he could stretch even the most everyday material—brick—beyond its normal, identifiable characteristics, and make it look (un)naturally organic. Granted, glass is more plastic. But these 12-foot-high, approximately four-foot-wide complexly curved panels bring a new dimension to the word. "I was thinking of a landscape," says Gehry. "The lines of the glass edges look like reeds swaying in the breeze."

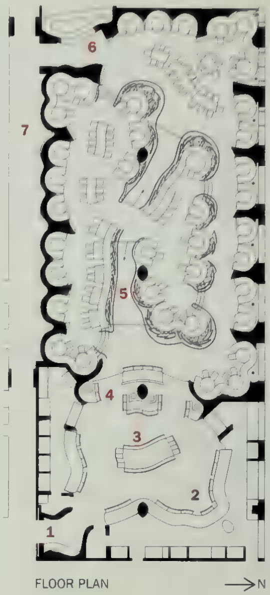
When Condé Nast, publisher of *Vogue, Vanity Fair,* and *The New Yorker,* among others, moved last fall to Four Times Square [March, page 90], it was the first time in years of expansion that so many titles were under the same roof. Needed was a place with the potential for bringing together the covens and coteries of magazine staffers, a place that could "represent the corporate culture," says editorial director James Truman. Chairman Si Newhouse and his wife, Victoria, an architectural critic and historian, along with Truman, decided this was an opportunity to enlist Gehry to design the cafeteria, plus four private dining rooms for business executives. (Mancini Duffy did the offices.) A lunchroom may sound mundane, but the program had its tricky side. Gehry was to come up with a democratic atmosphere appealing to a smart set that doesn't mind hamburgers, as long as they are served on tablecloths at the Royalton.

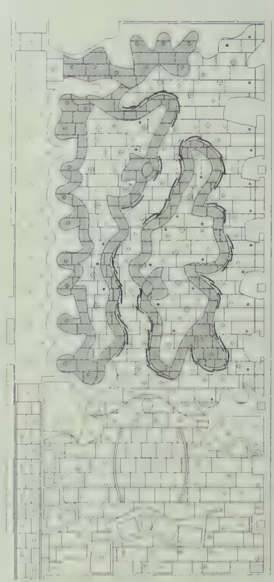
In fact, the booths at the Royalton, the Philippe Starck–designed venue once dubbed the "Condé Nast Commissary," were invoked by Truman in describing to Gehry ambient factors that might attach some of the editors to their new home in the touristic thicket of Times Square.

Project: *Condé Nast Cafeteria, Four Times Square, New York City*
Architect: *Frank O. Gehry & Assoc.—Frank O. Gehry, design principal; Randy Jefferson, project principal; Edwin Chan, project designer; Christopher Mercier and Michelle Kaufmann, project architects; Leigh Jerrard, Kamran Ardalan, David Nam, team*
Associate architect: *Mancini Duffy; Roger Black, project director; Rose Gavrilovich, project architect*
General contractor: *Tishman Interiors*
Titanium contractor: *Permasteelisa*
Consultants: *Tripyramid (connectors); Cosentini (lighting)*



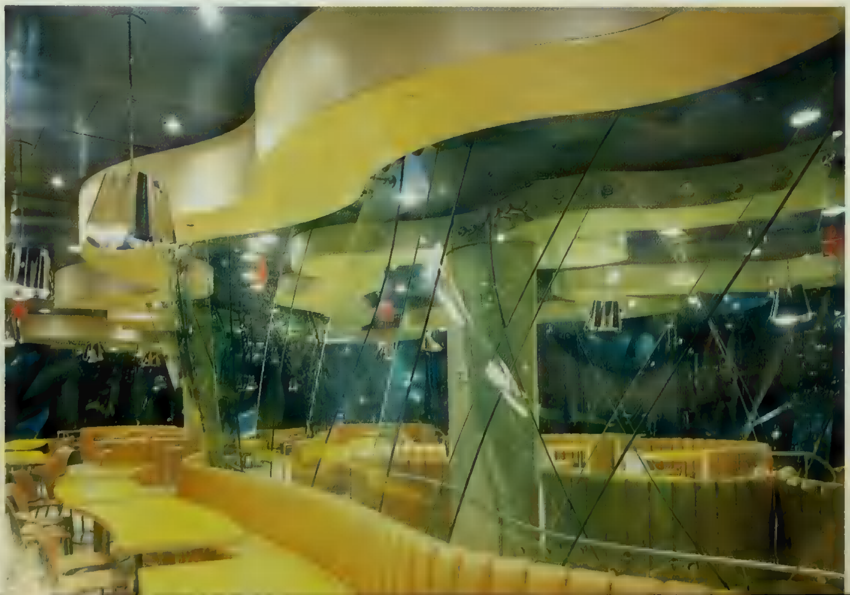






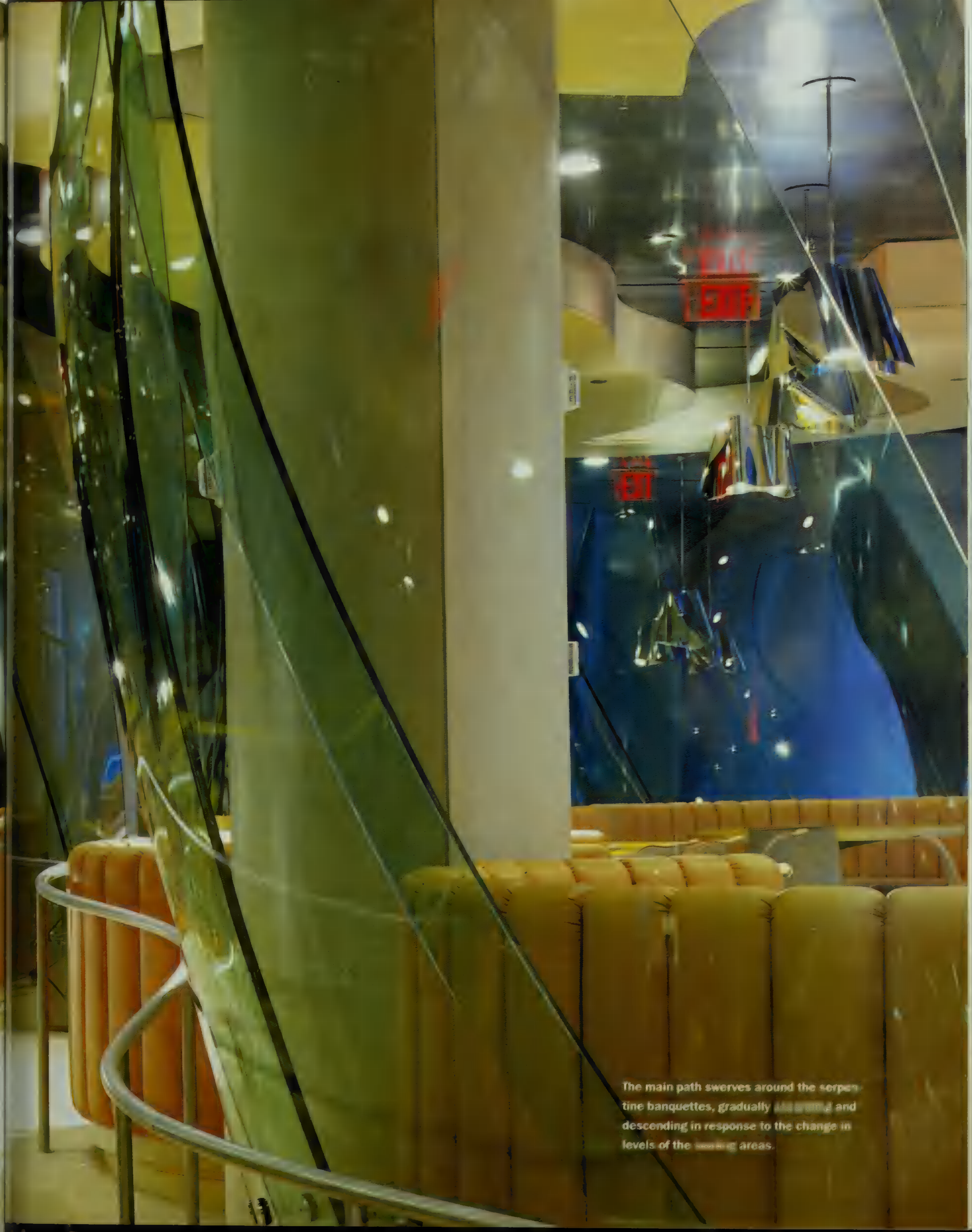
The clear veils of contoured, laminated glass maintain visibility across the levels of the 253-seat cafeteria. Banquette seating was configured by Gehry to form alcoves (above), booth-like areas (opposite), or serpentine edges (below). Gehry also placed his "FOG" side chairs opposite the linear banquettes, and designed wavy chrome-plated pendant lamps for the 13-foot-two-inch-high room.

1. *Entrance*
2. *Hot buffet*
3. *Salad bar*
4. *Registers*
5. *Lunchroom*
6. *Tray deposit*
7. *Exit corridor*

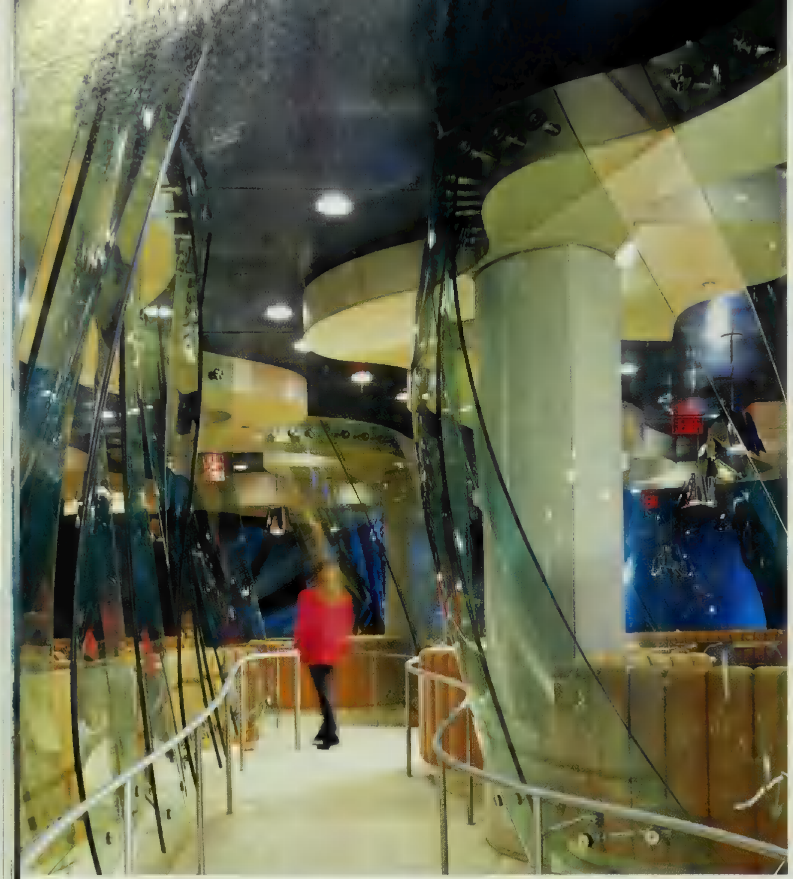


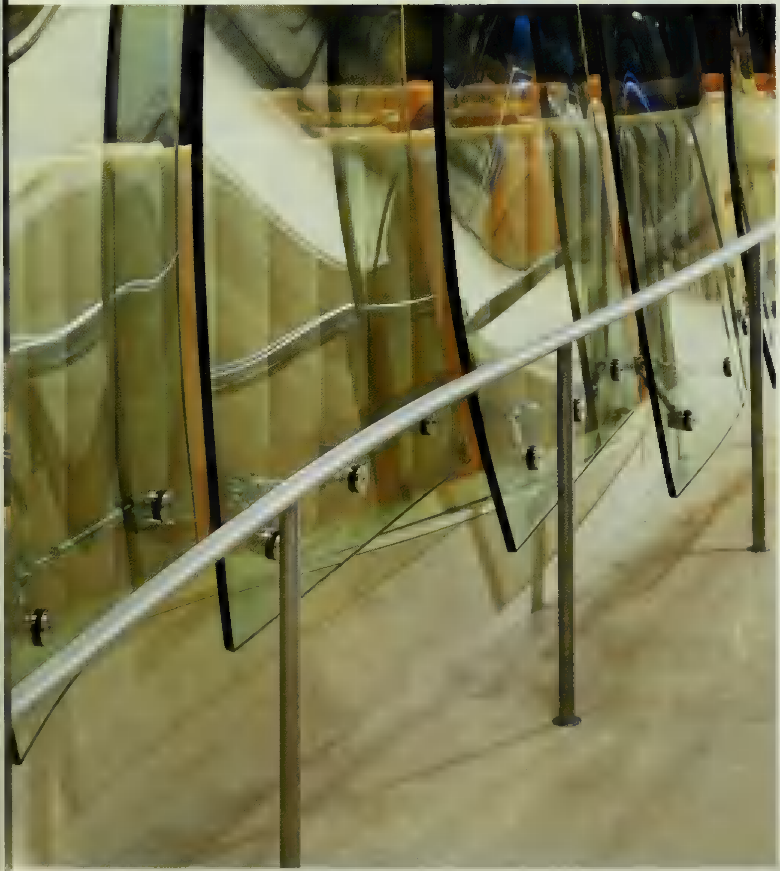
EXIT

EXIT



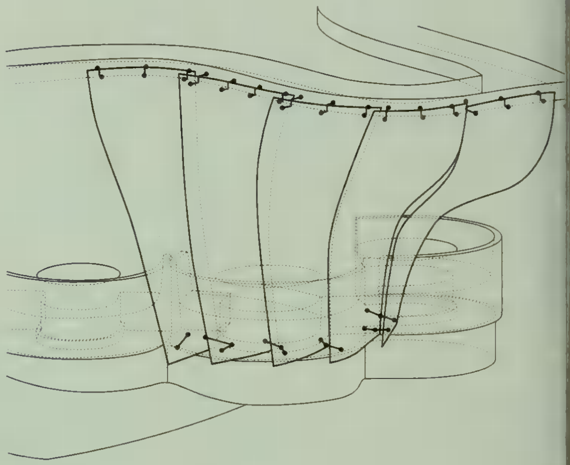
The main path swerves around the serpentine banquettes, gradually ascending and descending in response to the change in levels of the seating areas.





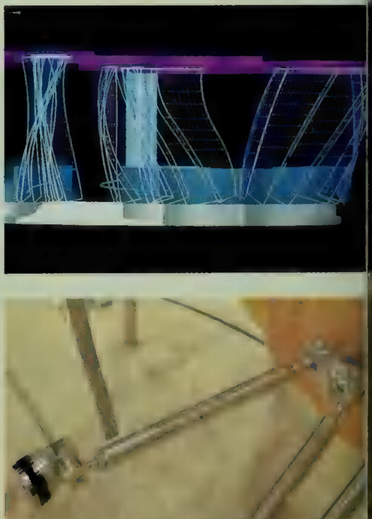
SHEAVES OF GLASS, RODS OF STEEL

The 76 sinuous glass panels seem to sway in the wind, but fortunately they don't. The 12-foot-high, ⅞-inch-thick laminated glass elements, about 4 feet wide, weigh a hulking 700 to 800 pounds each, and no two are alike. Manufactured by CTEK, a California company known for its automotive glass engineering, they are held at the top and bottom by stainless-steel connectors about 12 inches long with cast-in-place resin grommets. The safety glass was laminated with a cold-cure process, then molded at a 1000 degrees into complex curves.



GLASS PANEL DETAIL AXONOMETRIC

CATIA software enabled the contours of the glass to be precisely modeled (right). To keep the glass from cracking, Randy Jefferson, Gehry's partner, designed a ball joint in the grommet (bottom right). After the holes were drilled in the glass, but before it was installed, a spider frame of tubular steel was erected, duplicating the locations of the connectors. Then it was removed and the glass put in place. (Voilà!)



Gehry began to play with the booth idea. Serpentine banquettes proliferated, and not just along the walls: Many are elevated on wood-clad concrete platforms that provide bases to support the contoured glass. A circumambulatory path rises and falls as it swerves around them, reflecting the changes in elevation. The glass allows visibility across the room; the titanium bays along the three side walls promote a sense of seclusion. "This is a place for exhibitionism—walking down the paths—and for voyeurism—sitting in the banquettes," says Truman.

Because glass is reverberant, Gehry perforated the titanium to provide acoustical absorption for at least 50 percent of the room's surfaces. To offset the blue cast, light ash covers the floors. It also forms the soffits that snake around the titanium ceiling, hiding the ducts and the steel frame to which the glass is attached. This low-maintenance wood is not as warm as Douglas fir, Gehry notes. "But that would have looked too fancy."

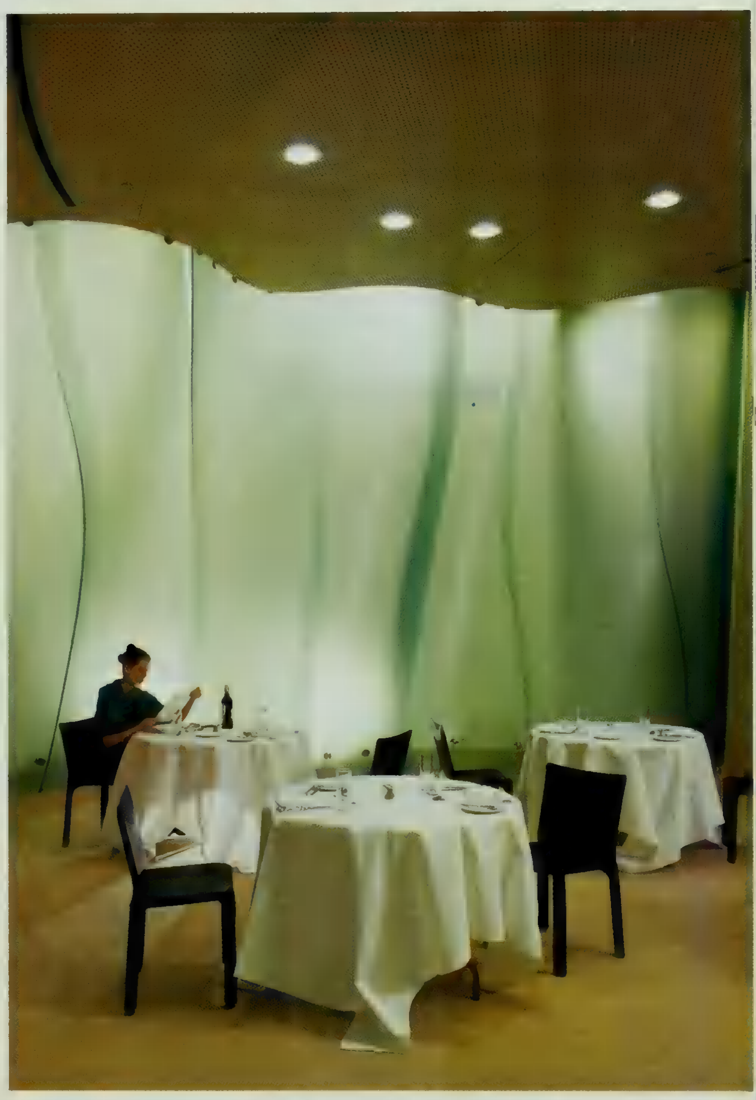
The ash, along with the strong yellow, plastic-laminated tabletops and the very bright pendant and downlighting, was "geared to keep the place from looking like a nightclub," Gehry adds. However, using these 1950s diner elements, instead of, say, fiber-optic lighting and fiberglass-reinforced polymer tops, creates a slightly disconcerting retro note for those who crave total adherence to the 21st century.

New technical procedures were needed to build the 9,170-square-foot space. Full-size test models of perforated metal were built at the titanium contractor's in Italy. There, too, the actual-size cafeteria—with wood platforms, wood spine, and rib frame for the titanium walls and columns, wood, and Naugahyde banquettes, plus sheet steel—was "preconstructed," without the titanium or the glass. Next, it was dismantled, crated to New York, and lifted into the fourth floor by crane. Then the ensemble was put together again. The titanium was attached with high-strength adhesive to the heavy-gauge sheet steel and mounted onto a wood frame with acoustic paper in between. Finally, the glass, made in California, was carefully "manhandled" into place. [Details, opposite]

ASH PLYWOOD, YELLOW LAMINATE TABLETOPS, AND BRIGHT LIGHTING ARE MEANT TO KEEP IT FROM LOOKING TOO FANCY.

To date, the much-acclaimed cafeteria has been mobbed. But it's not noisy. And with the different seating levels and glass enclosures, neighbors are visible without being overly present. So far, the various hierarchies mix and mingle. Because of the high turnover, you can watch late-lunching, stylish editors wiping their tables clean before putting down translucent Gehry-designed trays. Amazing what architecture can do . . .

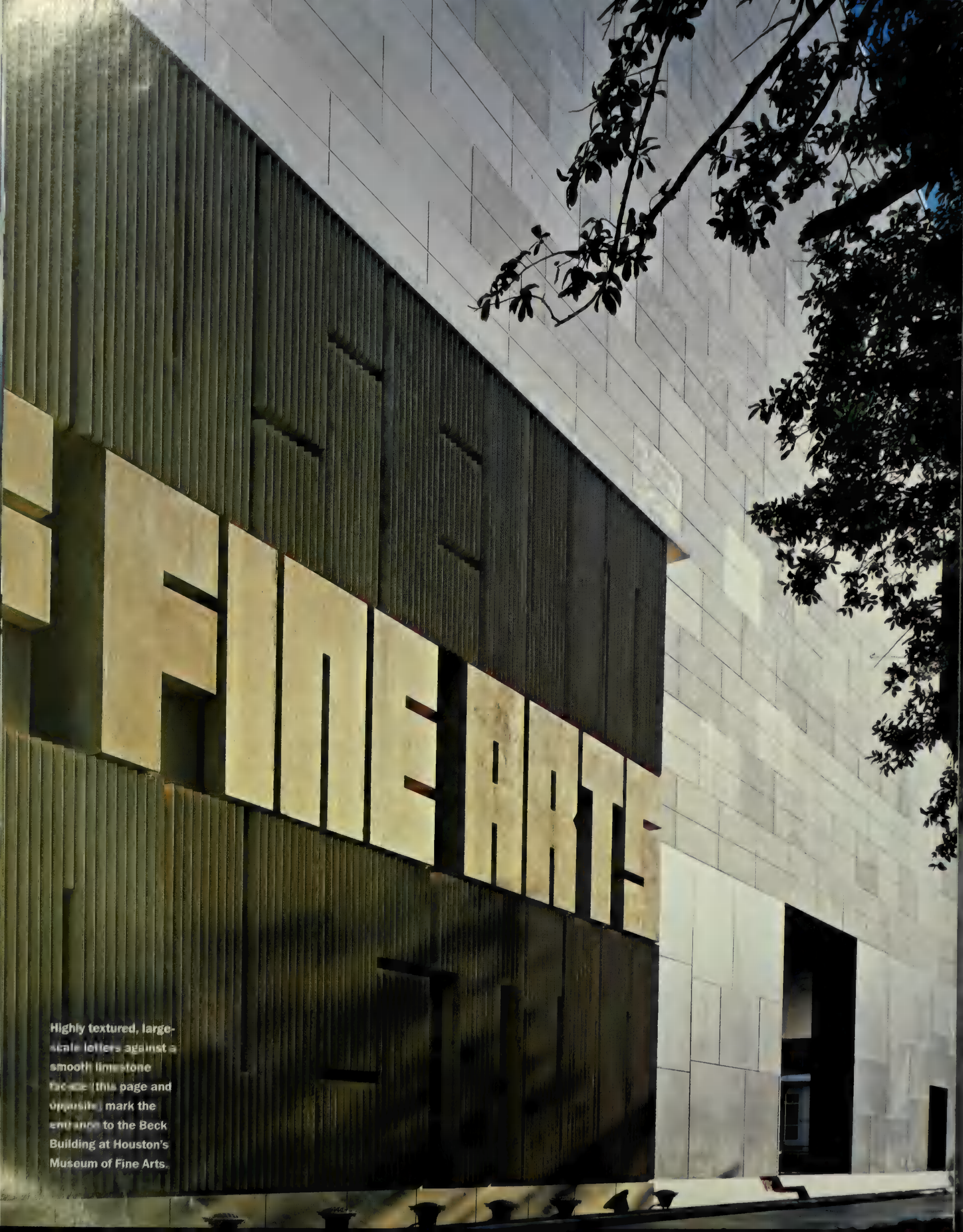
True, the cafeteria is not your everyday design opportunity. It helps to have a hefty (not disclosed) budget. Nevertheless, the unusual commission enabled Gehry to pursue yet another investigation of a material—glass—that should have significant implications for his own work, as well as that of others. It also is a testament (however small) that it is possible to generate Architecture, with a capital A, in a world swallowed up by so much banality. You must have committed clients (or patrons) and participants. But clearly the tsuris was worth it. ■



In the private dining rooms (above), the laminated glass panels are sandblasted and placed to overlap one another, giving the effect of billowing curtains. They are fastened from the top (slightly above the hung ceiling) and bottom with stainless-steel connectors to a steel frame. Mario Bellini chairs are now in use, but the free-form tables, designed by Gehry, have not yet arrived.

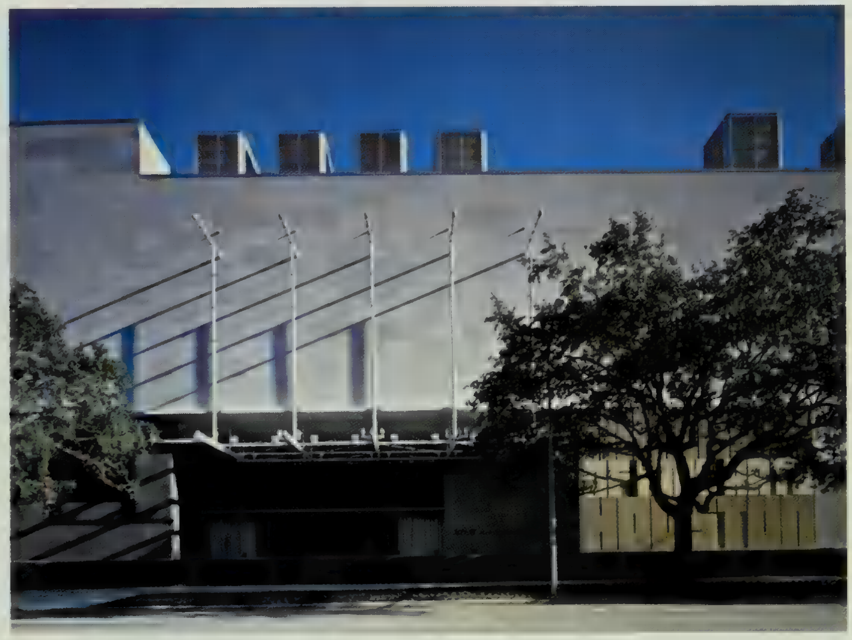
Sources
Glass panels: *CTEK*
Titanium: *Nippon, KPK*
Titanium wall paneling and ceilings, ash veneer millwork, cabinetwork, wood paneling, doors, and fixed seating: *Permasteelisa Group*
Plastic laminate: *Formica Colorcore*
Pendant lighting: *Rambusch*
Chairs: *Knoll (FOG); Cassina (Bellini)*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**



Highly textured, large-scale letters against a smooth limestone facade (this page and opposite) mark the entrance to the Beck Building at Houston's Museum of Fine Arts.

CRITICISM Is Rafael Moneo's new Beck Building at the MUSEUM OF FINE ARTS in Houston equally extraordinary inside and out?



By David Dillon

"Cool," "sober," and "controlled" are terms more often associated with banks than art museums, yet this language seems particularly appropriate for the new Audrey Jones Beck Building at the Museum of Fine Arts, Houston. Unlike many museums of the Bilbao moment, it does not strut or pirouette or deconstruct itself. It tries neither to be sculptural nor to wrestle with the art. Instead, it is an old-fashioned box—the contents are more important than the container.

"I want people to be curious about what is going on inside," explains Madrid-based architect Rafael Moneo, invoking the Spanish tradition of massive exterior walls and cloistered delights. Yet the Beck is more blocky than monumental. It sits stiffly, even confrontationally, on the street, with one animated and three blank facades—as if Moneo had given up on formal expressiveness and turned the design over to the masons. From a distance, it looks more like a department store than a museum.

The $85 million Beck Building, which opened on March 25, caps nearly 40 years of purposeful expansion by the Museum of Fine Arts. Starting with a 1924 limestone structure by William Ward Watkin, the museum added Mies van der Rohe's Cullinan Hall and Brown Pavilion in 1958 and 1974, respectively, followed by Isamu Noguchi's sculpture garden in 1986, and new conservation and education facilities in the 1990s.

Nearly half of the Beck's 192,000-square-foot space is devoted to exhibitions—an enviable percentage made possible by moving most of the museum's storage, gift shop, and mechanical activities to a new visitors' center/parking garage across the street. This 221,000-square-foot building, also by Moneo, allowed curators to reorganize the permanent collection and turn Mies' Brown Pavilion into a showcase for the museum's impressive collection of modern and contemporary art.

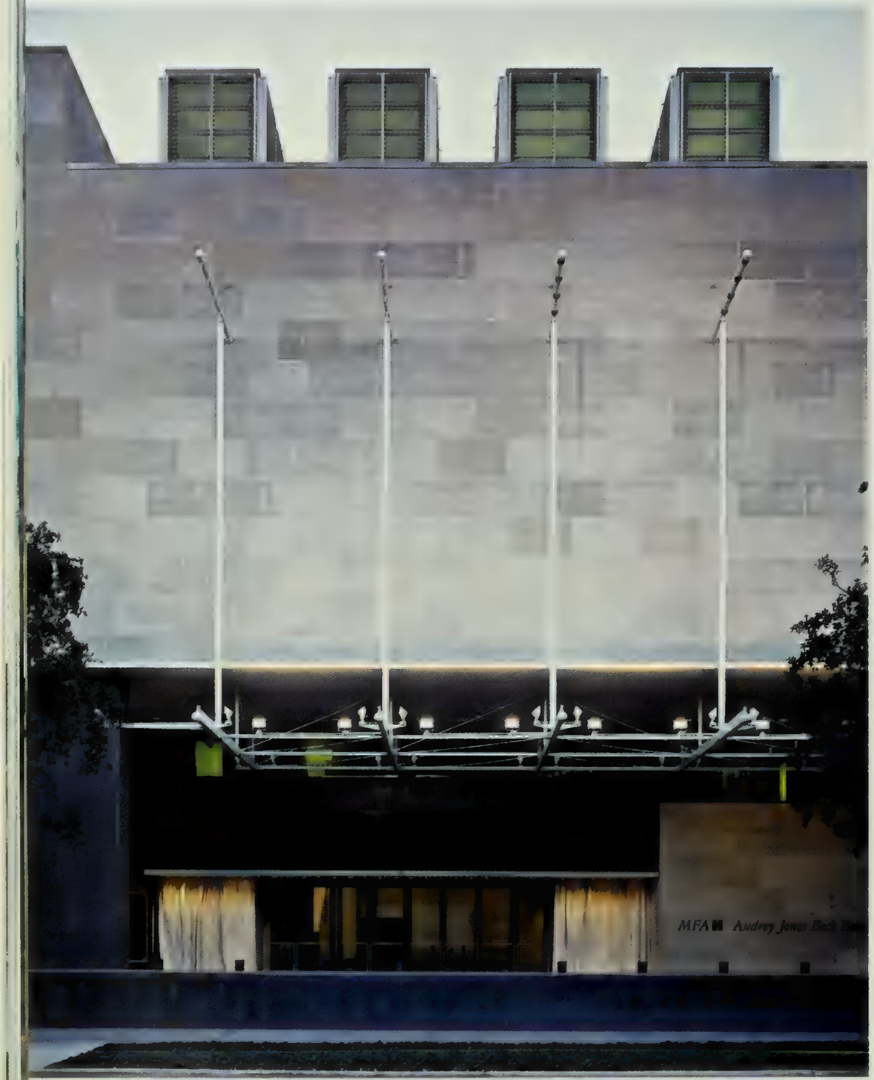
"I FELT THAT MY BUILDING COULD NOT BE A SUCCESS," SAYS MONEO, "UNLESS IT LIBERATED THE MIES BUILDING."

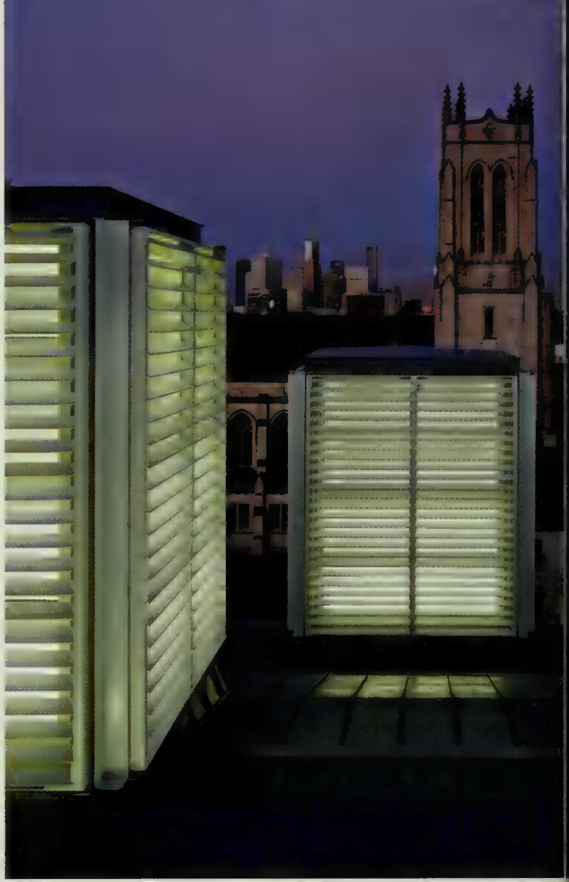
"I felt that my building could not be a success unless it liberated the Mies building," says Moneo, always a sensitive contextualist. "It was jammed and cut up with partitions." Moneo pays respect to Mies by turning the Beck's front door toward the Brown Pavilion and covering his building in the same Indiana limestone as the original Watkin structure and two Mies additions. Yet Moneo's intentions are entirely different from

---

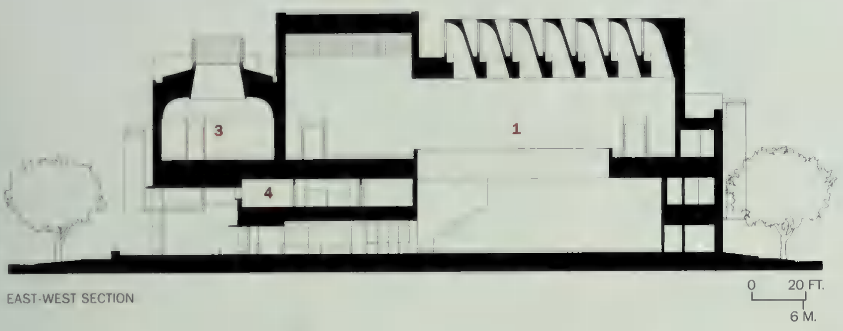
David Dillon is the architecture critic of the Dallas Morning News *and the author of* The Architecture of O'Neil Ford: Celebrating Place, *published by the University of Texas Press in 1999.*

Project: *Audrey Jones Beck Building, Museum of Fine Arts, Houston*
Client: *The Museum of Fine Arts, Houston—Peter Marzio, director*
Architect: *José Rafael Moneo Architect—José Rafael Moneo, principal-in-charge; Emilio Tuñon, preliminary design; Eduardo Miralles, project architect; Hayden Salter, José Luis Gahona, project team*
Associate architect: *Kendall/Heaton Associates—Larry Burns, project architect; John Goodman, Steve Bell*
Engineers: *CBM Engineers (structural); Altieri Siebor Wieber (mechanical/electrical)*
Consultant: *Fisher Marantz Renfro Stone (lighting design)*



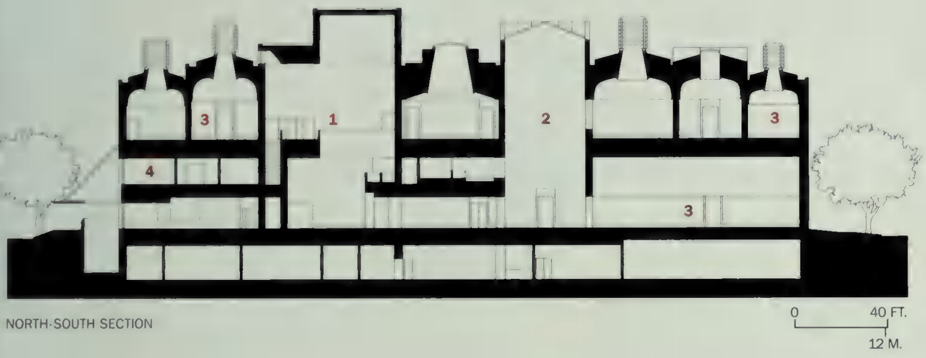


Louvered-glass lanterns crowning the Beck Building's sober facades (this page) glow at night. Within the galleries, soft, even light entering through these lanterns becomes atmospheric.



EAST-WEST SECTION

1. *Entrance hall*
2. *Sculpture court*
3. *Gallery*
4. *Office mezzanine*



NORTH-SOUTH SECTION

Mies'. Whereas the Brown Pavilion gestures toward the city with sweeping transparent galleries, the Beck Building remains dense and introspective.

"I put all of my interest into the interior," the architect explains. "I wanted it to be dramatic and scenographic, with each sequence of spaces and images being different."

Though the word "scenographic" is rarely associated with Moneo's work, it, too, seems to fit. The Beck Building is a collection of collections, each distinct and self-contained, woven into an extended narrative that begins in the ancient world and ends just after World War I.

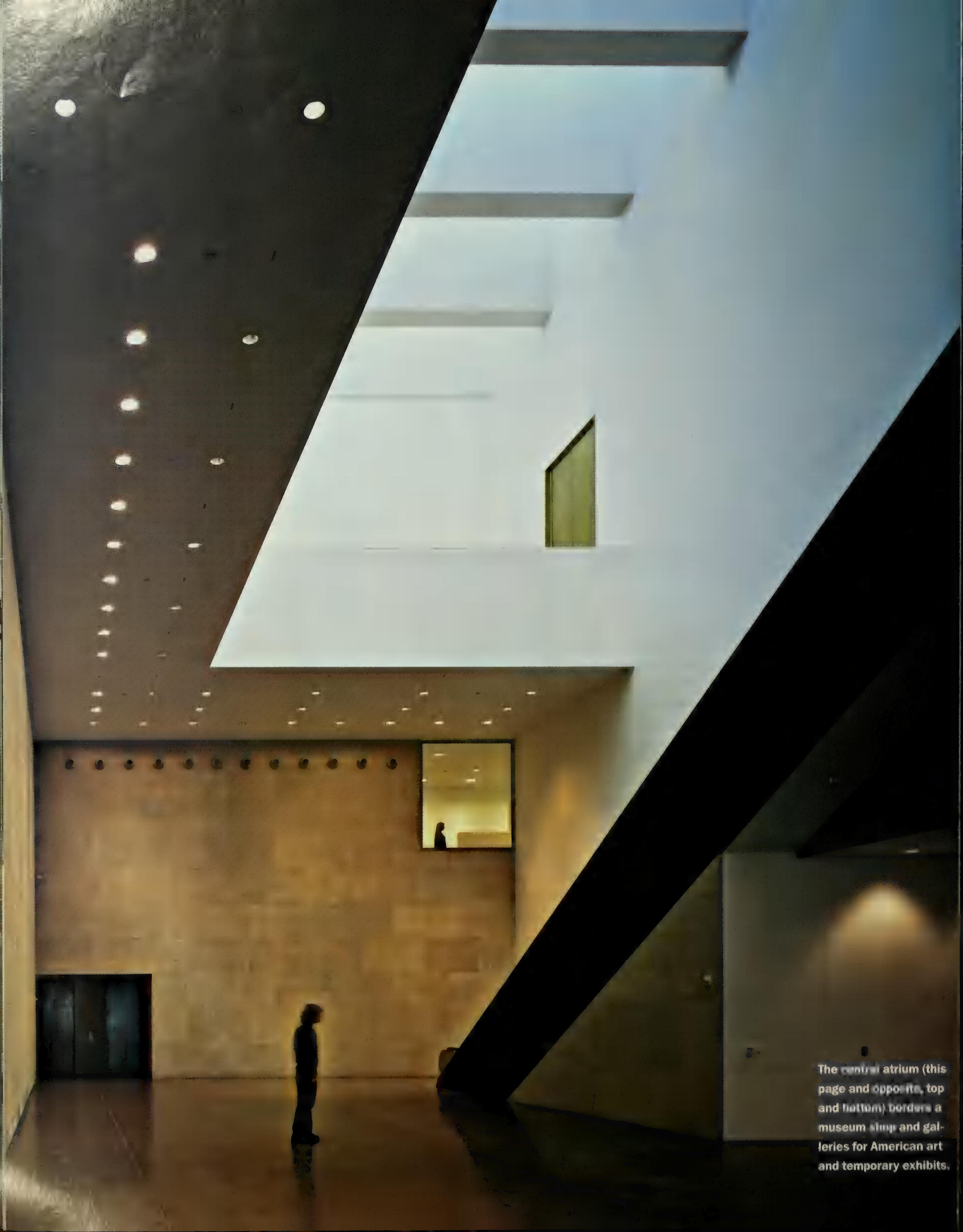
Visitors enter the building from Main Street or through an underground tunnel connected to the Brown Pavilion at one end and the visitors' center at the other. The central atrium, a grand space that overwhelms the museum's still-meager selection of ancient art, is flanked by a gift shop and galleries for American art and temporary exhibitions. The upper floors house the Blaffer Collection of Old Masters and the Beck Collection of Impressionist and Post-impressionist art, as well as several smaller collections.

Moneo's decision to locate the principal galleries on the top floor was a shrewd one. These spaces take advantage of the natural light and form the heart and narrative climax of the building. Daylight enters through rectangular, louvered-glass roof lanterns, which are more refined than the ones the architect installed, with mixed results, in his Stockholm Modern Art Museum. A narrow throat, connecting each skylight with the gallery ceiling, allows filtered rays to bounce from side to side before falling softly and evenly on the art. The light creates an atmosphere, almost a spell, that draws visitors from gallery to gallery. At night, the lanterns become a miniature skyline glowing above the live oak trees.

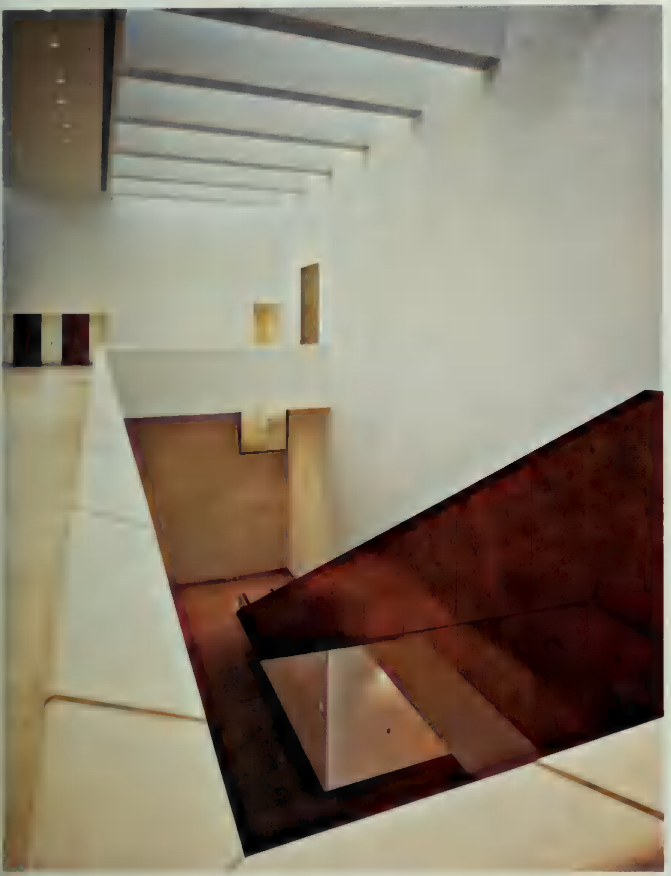
Blending old and new, the Beck galleries appear as varied as the art they contain. Vaulted and cove ceilings, reminiscent of 19th-century salons, are interspersed with conventionally flat ones. The rooms—some cubic and some rectangular—are painted in subtle shades of green, gray, and peach. Ceiling heights vary from 12 feet in several galleries on the first level to 80 feet in the atrium and American sculpture court. Some of the best spaces are the smallest, such as the intimate rooms of Dutch still lifes and floral paintings. Limestone, terrazzo, granite, and wood, often in combination, clad the floors, demonstrating Moneo's skill with materials. Several galleries contain large windows that frame views of the city and, in one case, of the Mies building across the street. All have entrances with polished bronze jambs, alluding simultaneously to the world of Old Master paintings, with their gold frames, and the sleek finishes identified with modern technology.

THE FARTHER ONE GETS FROM THE GALLERIES, THE LESS COMPELLING THE BECK BUILDING BECOMES.

Nonetheless, the farther one gets from the galleries, the less compelling the Beck Building becomes. Except for the Main Street facade, with its reflecting pool and canopy of mature live oak trees, the exterior is stiff and lifeless in somewhat the same way as Moneo's Davis Museum



The central atrium (this page and opposite, top and bottom) borders a museum shop and galleries for American art and temporary exhibits.



For the interior (this page and opposite), Moneo creates a variety of spaces, skillfully incorporating a refined palette of limestone, terrazzo, granite, wood, and bronze.

and Cultural Center at Wellesley College—several floors of bright, airy galleries wrapped in a mundane skin of red brick. Even the Beck's deeply colored bronze doors and decorative facade panels, like dark slabs of rich chocolate, are not enough to make the exterior memorable.

Moneo defends his design's introversion by describing Houston as a car city and semitropical environment, where nobody walks and nature can be enjoyed only indoors. "Air-conditioning is what allows you to recover nature here," he insists. "The city is not an Islamic garden. You need to be protected from the wet atmosphere." But this is a simplistic reading of Houston. The climate is unbearable only part of the year, and the Beck Building adjoins a large, residential neighborhood where, believe it or not, people walk.

The architect has accommodated the automobile with a long Corbusian porte cochere along Main Street and the combined visitors' center/parking garage on Fannin. Visitors parking at the center buy their tickets in its lobby, then follow an underground tunnel into the museum. Though pleasant enough for a parking structure, this lobby is inadequate as a main entrance to a major cultural institution. And the tunnel is strictly utilitarian except for a tour-de-force light installation by artist James Turrell. Positioned midway between the Beck Building and the Brown Pavilion, this piece marks the transition from Old Masters to contemporary art, from light as compositional element to light as experience.

The Beck is Houston's most important building in years, a civic milestone and a preview, everyone hopes, of greater things to come. Yet it will take some getting used to. Architecturally, it breaks no new ground; nor does it try to redefine the museum experience. It is sober and tasteful, but on the exterior disappointingly matter-of-fact. In a city that takes prides in living on the edge—verging on out of control—the presence of so much restraint may be the biggest surprise of all. ■

Sources

Stone: *Indiana limestone, Dakota mahogany granite*

Skylights: *Linel Signature (custom)*

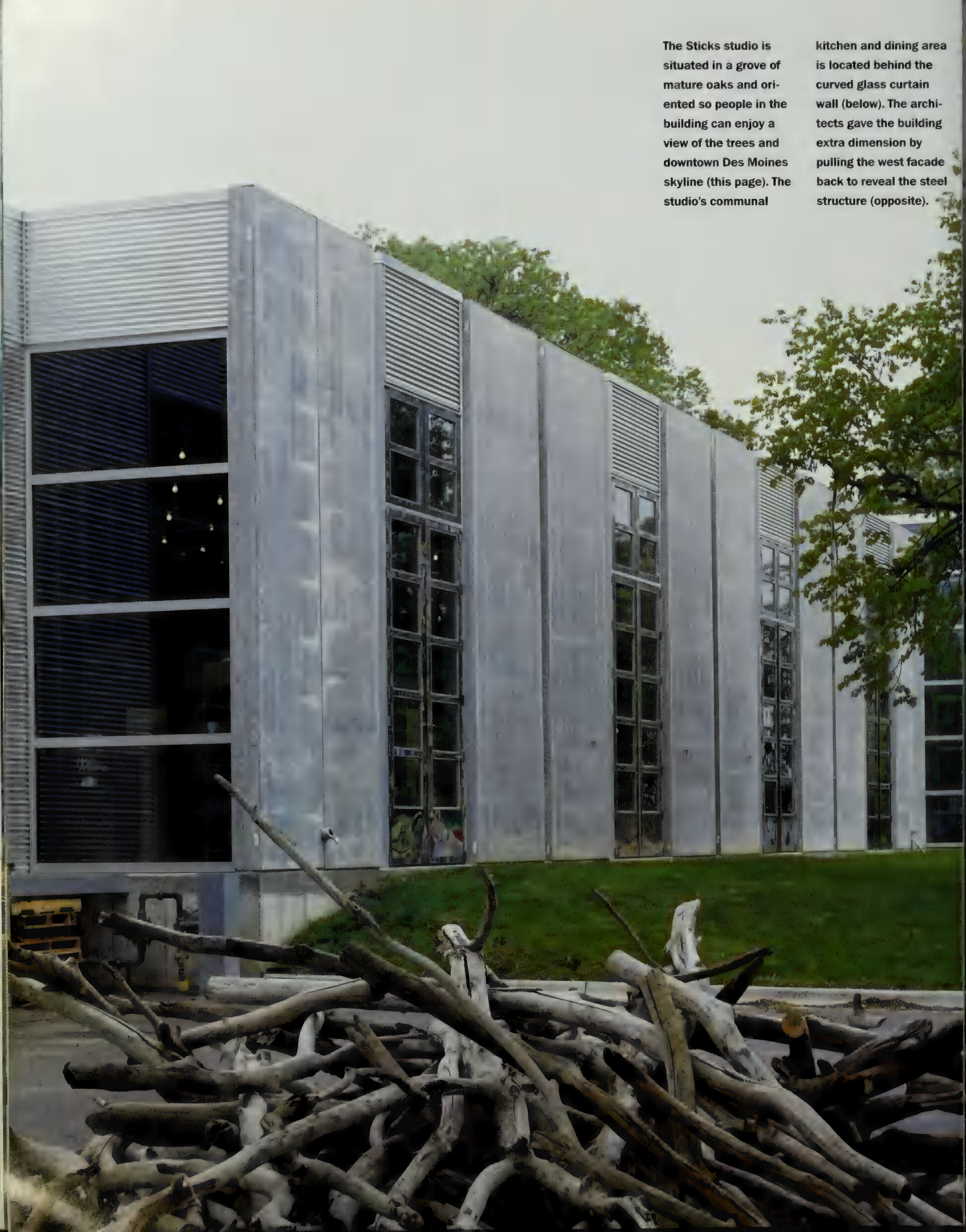
Doors: *C.J. Rush (bronze formed); Tex Steel (hollow metal); Krieger (acoustical); Won-Door (accordion)*

Ceilings: *Armstrong (acoustical and suspension grid)*

Paint: *Benjamin Moore*

Lighting: *Edison Price, Metalux, Elliptipar, Kramer (interior), Norbert Belfer, Nuart, Cornelius; Hydrel, Cooper, C.W. Cole (exterior); Lutron (controls)*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* ***www.architecturalrecord.com***



The Sticks studio is situated in a grove of mature oaks and oriented so people in the building can enjoy a view of the trees and downtown Des Moines skyline (this page). The studio's communal kitchen and dining area is located behind the curved glass curtain wall (below). The architects gave the building extra dimension by pulling the west facade back to reveal the steel structure (opposite).

Herbert Lewis Kruse Blunck Architecture's new headquarters and studio building for STICKS serves as a foil for artists' work

By Linda Hallam

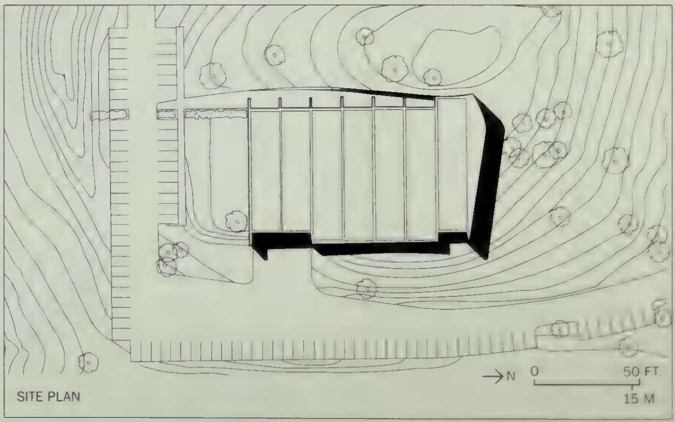
Art and architecture meld smoothly into the striking new headquarters and studio building for Sticks, a company that creates and markets decorative furniture, accessories, and art. From the subtle curve of the glass north wall and the pairs of intricately painted, monumental, mahogany double doors, the 28,000-square-foot building epitomizes commercial success based on the talents of fine artists and craftspeople. The collaboration of this fast-growing young company, which synergizes art and business, and the design team of Herbert Lewis Kruse Blunck Architecture, a Des Moines firm known for its innovative use of materials, is a natural one.

For all the building's handsome, understated facade details, the structure, which owners Sarah Grant-Hutchison and Jim Leuders prefer to call an artists' studio rather than a manufacturing plant, really is an organized production operation. Its success as architecture rests squarely on how well the linear building design, with a subtle, central vertical core, responds to the business needs of the company and to the practical needs of the artists. The architects' design team, headed by organizing principal Kirk Blunck, FAIA, collaborated with Grant-Hutchison and Leuders. "We purposefully toned down the material use on the interior," notes Blunck, "so the space would function more as a blank palette for the artists' studio. The idea was for the building to serve as a foil to their work."

Because Sticks wanted to incorporate design and artist studios as well as production and shipping facilities into the building, Blunck and team associates, Peter Goché, AIA, Erin Olson-Douglas, Stephen Knowles, AIA, Dan Vercruysse, and Richard Seely, AIA, worked with the owners on selection of a site that would be conducive to views and daylight. Their search yielded a site with slightly rolling terrain and 50 mature oak trees, atypical for an office park but visually appropriate for a company whose initial artwork and name were based on driftwood.

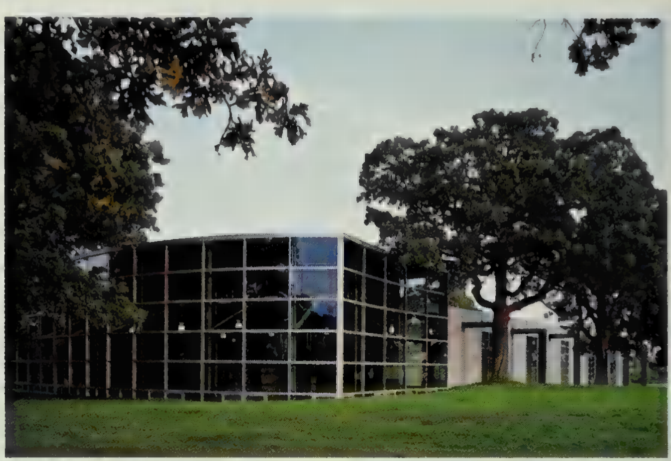
The site is crucial to both the economics and design of the steel-glass-and-concrete building. Working with the goal of saving as many trees as possible over the entire site, the architects designed the structure with an economical grade-beam foundation, graded on the west, where the front entrance is located, into a naturally occurring slope. The slab construction allowed the building's footprint to be tailored to the site—

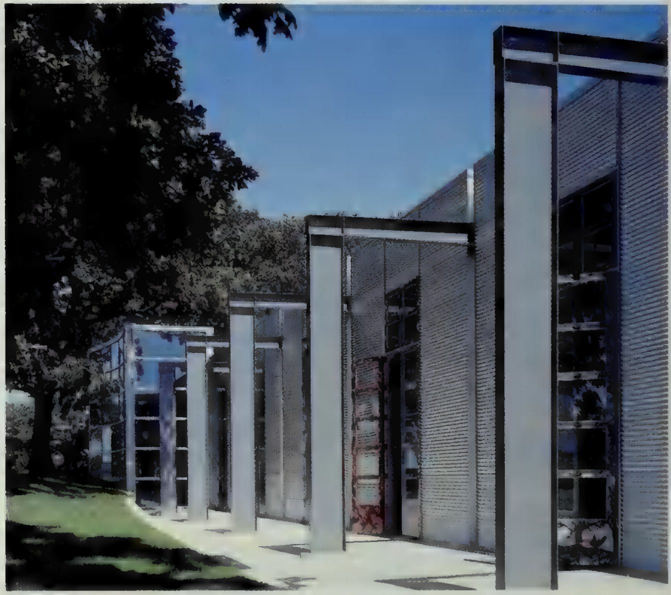
Linda Hallam is an author and book editor for Meredith Publishing in Des Moines. Her new books, Garden Style Projects, *and* Paint: Ideas and Decorative Projects, *debuted this spring.*



Project: *Sticks, Inc.*
Location: *Des Moines*
Owner/client: *Jim Leuders and Sarah Grant-Hutchison*
Architect: *Herbert Lewis Kruse Blunck Architecture—Kirk V. Blunck, FAIA, Peter Goché, AIA, Erin Olson-Douglas, Stephen Knowles, AIA, Dan Vercruysse, Richard Seely, AIA*
Interior designer: *Herbert Lewis Kruse Blunck Architecture*
Structural: *Charles Saul Engineering*
General contractor: *Neumann Brothers*

Standard curtain wall, precast concrete, and corrugated-metal panels were used to clad the preengineered steel structure.





and the curve on the northern exposure to be used for studio light. The northwest corner has a three-sided, glassed-in space used as a communal dining and gathering area, and is an extension of the entry. The adjacent west facade is pulled back from the columns and roof beams, revealing a row of inverted L shapes, which act figuratively as an arcade.

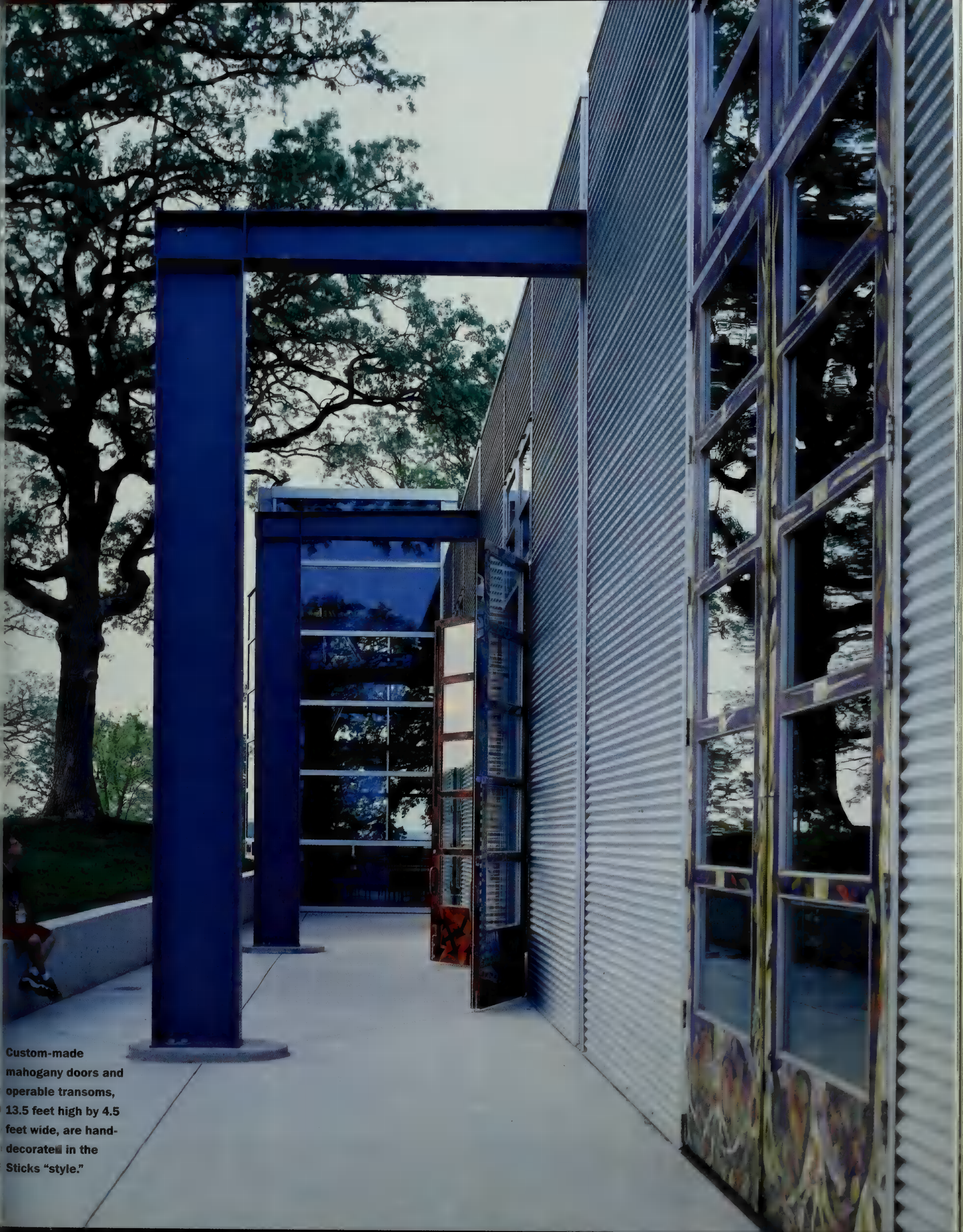
A pair of massive, mahogany double doors, each inscribed with the wood-burned and painted designs seen on Sticks-designed furniture, has been installed between each pair of structural bents, extending the studio into the site when open. The pair of doors at the north end of the colonnade is the building's public entrance. Inside, the staff's dining area and its bistro-style kitchen are open to the adjacent design studio. Floors throughout are exposed concrete, scored on a 9-by-10-foot organizing grid and left unfinished. Steel roof beams, columns, and studs, along with the blanket ceiling insulation, were likewise left exposed. This reliance on the natural integrity of materials is a hallmark of the architectural firm—and at the same time reflects the simple, honest folk-art roots of Sticks' furnishings and art.

With the gathering and design areas as flanking arms, the product-viewing gallery is the culmination of the entry axis—and the finishing point of the design, crafting, and embellishment processes that take place throughout the building. What casual shoppers in the gallery don't necessarily see is that the building was thoughtfully designed to enable the workflow of the goods being produced there. "We studied how the company works and designed from there," explains design team member Erin Olson-Douglas.

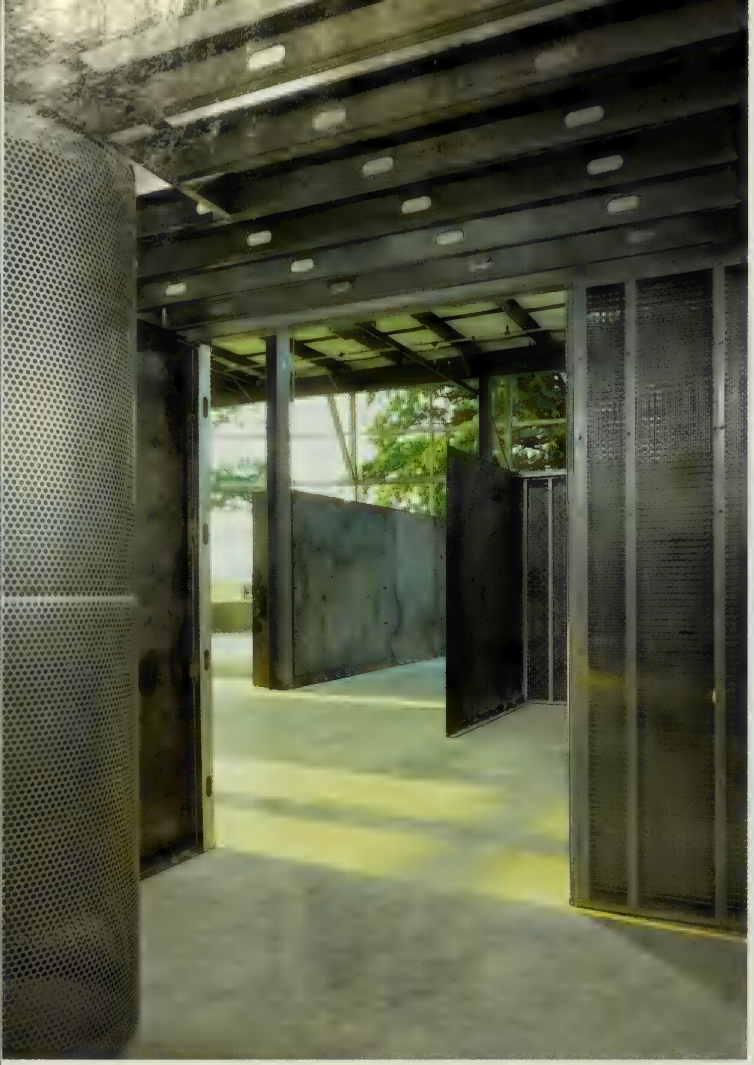
The loading dock on the southeast corner of the building, with the same decorated doors as the public facade, opens directly into the woodworking area. From this key production station where furniture is constructed, pieces are moved to various workstations set up in the open plan. The progression through the work areas leads to the building's pièce de résistance: the open artists' studio along the curved north wall of the building. It is there that furniture is hand-painted and detailed. In this shared space with views of the old oaks and the downtown skyline, artists work at individual tables but with common views, light, and interactive energy.

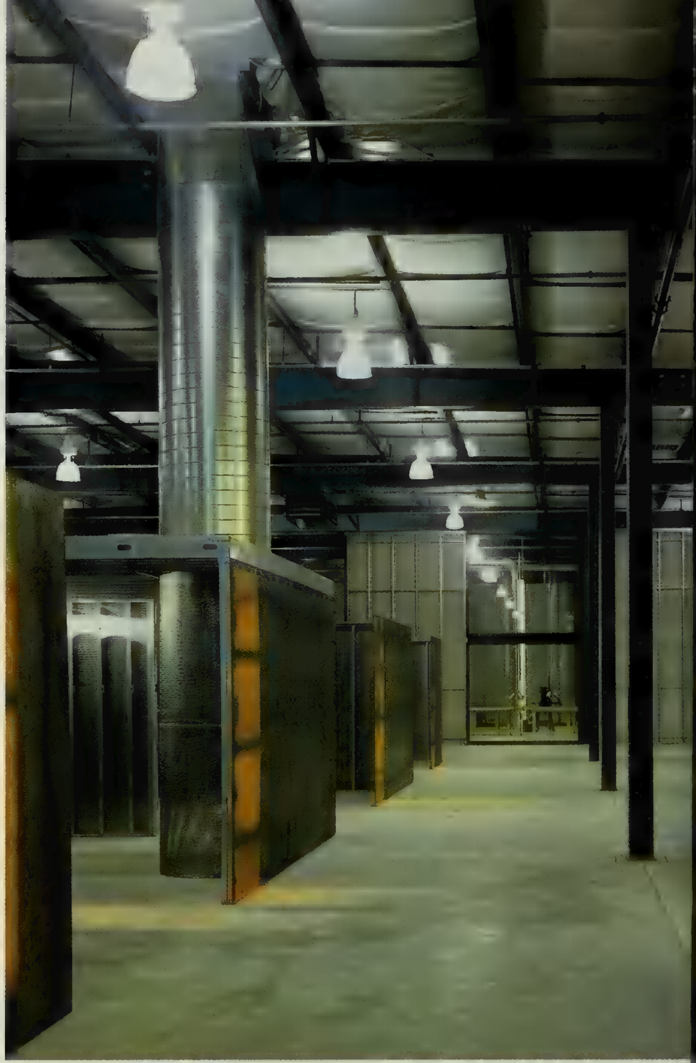
"The goal was to make sure everyone had dramatic views," Blunck says. "It was deliberately democratic." The low-e-glass north wall, with fixed windows and lower, operable awning-style windows for ventilation, continues unbroken to the northwest corner, where the north and west glass walls of the kitchen and gathering space meet.

From the north side of the building, detailed artwork is moved back to the central core for painting, sealing, drying, and sometimes upholstery. Upon completion of the interior work cycle, pieces not displayed in the gallery are returned to the loading dock for shipment to

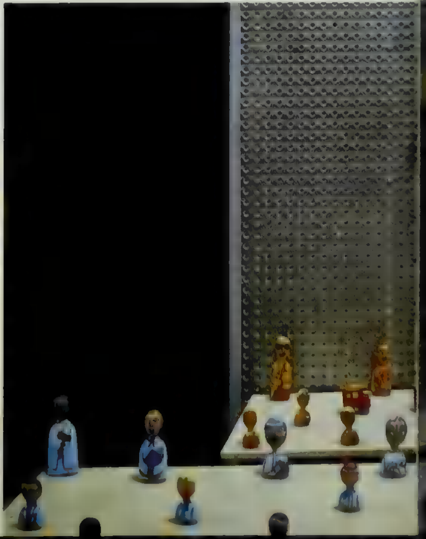


Custom-made mahogany doors and operable transoms, 13.5 feet high by 4.5 feet wide, are hand-decorated in the Sticks "style."





The above four views show how the architects chose durable materials that were deliberately neutral in color and finish, so that the artists could focus on the color they were applying to the products they were producing there (photos below).



galleries across the United States and Europe.

With so much floor activity, visitors are hardly cognizant of the discreetly sited stairwell at the rear of the gallery that leads to the business offices on the mezzanine above. Management functions are grouped toward the east side of the mezzanine, and a glass-walled meeting room is cantilevered over the production floor to the west. Although views from here appear to be a riot of color and pattern, the interior is actually finished in subdued neutral shades of black and gray—both the owners and architects started and ended the collaborative design with the mutual understanding that the building would be a quiet and nurturing backdrop for innovative artists and their always-colorful art. ■

Sources

Preengineered structural frame: *Butler Manufacturing*

Curtain Wall: *Wausau Metals*

Exterior corrugated metal panels: *Berridge*

Precast concrete panels: *Fabcon*

Metal roof: *Butler*

Plastic glazing: *Polygal*

Custom wood doors: *Lisac Millwork*

Hardware: *Richards-Wilcox; Hager Stanley; Adams Rite; Sargent; McKinney*

Custom door finish: *Sticks*

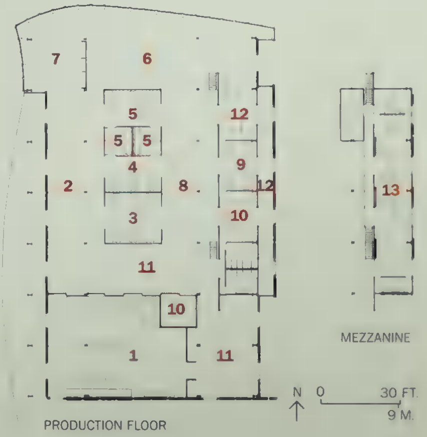
Blackboard panels: *Claridge*

Translucent panels: *Polygal*

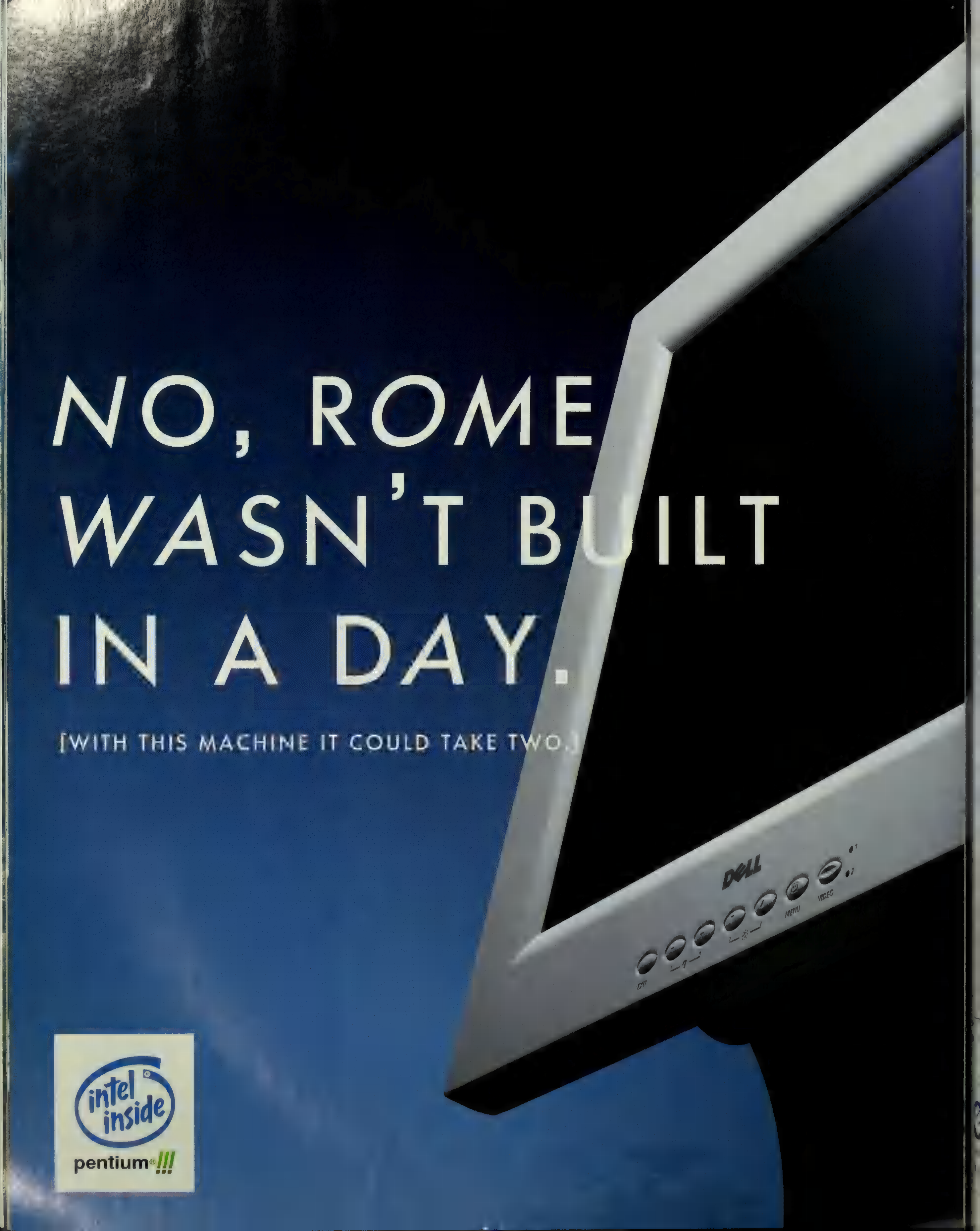
Perforated metal and wire cloth: *McNichols*

Gypsum board: *USG*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* ***www.architecturalrecord.com***



1. *Millwork shop*
2. *Drawing*
3. *Etching*
4. *Drying*
5. *Finishing*
6. *Painting*
7. *Lounge/kitchen*
8. *Hardware*
9. *Fabrics*
10. *Installation design*
11. *Shipping*
12. *Galleries*
13. *Offices*


NO, ROME WASN'T BUILT IN A DAY.
[WITH THIS MACHINE IT COULD TAKE TWO.]
DELL
MENU
VIDEO
intel inside
pentium®!!!

Flat Panel Monitor Sold as an Upgrade.

Empires come and go. And, what once was possible in months, is now required in days, or even hours. Not to worry. Because here's a workstation that can leap killer deadlines faster than you can say "Centurion." The Dell™ Precision™ workstation's RDRAM technology and dual processor capability provides architects and engineers the bandwidth and refresh rate to perfect their designs quickly, even up to the last minute. And a full range of industry-leading graphics cards delivers impressive 2D and 3D performance that breathes digital life into your creations. Just think of what those early architectural visionaries might have accomplished if they had a workstation like this.

DELL™ WORKSTATIONS:

DELL™ PRECISION™ 220

- Intel® Pentium® III Processor at 600MHz (up to 866MHz)
- Dual Processor Capable
- 64MB PC600 RDRAM (up to 512MB)
- 10.2GB[5] EIDE HD (up to 36GB[5] 10K Ultra3 SCSI)
- 17" (16.0" vis) M781 Monitor
- 32MB Diamond® Viper V770D Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- NEW Microsoft® Windows® 2000 Professional
- 3-Yr Next-Business-Day On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$1769 E-VALUE CODE 89892-490617

BUSINESS LEASE: $49/MO., 48 MOS.[11]

ASK ABOUT OUR AIA DISCOUNT.

DELL™ PRECISION™ 420

- Intel® Pentium® III Processor at 600MHz (up to 866MHz)
- Dual Processor/RAID Capable
- 128MB Non-ECC PC600 RDRAM (up to 1GB)
- 10.2GB[5] EIDE HD (up to 36GB[5] 10K Ultra3 SCSI)
- 17" (16.0" vis) M781 Monitor
- 32MB 4X AGP Matrox G400 Max Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- NEW Microsoft® Windows® 2000 Professional
- 3-Yr Next-Business-Day On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$2379 E-VALUE CODE 89892-490623

BUSINESS LEASE: $66/MO., 48 MOS.

ASK ABOUT OUR AIA DISCOUNT.

DELL™ PRECISION™ 620

- Intel® Pentium® III Xeon™ Processor at 733MHz (up to 866MHz)
- Dual Processor/RAID Capable
- 128MB PC800 ECC RDRAM (up to 2GB)
- 9GB[5] (10K) Ultra3 SCSI HD (up to 36GB[5] 10K)
- 17" (16.0" vis) M781 Monitor
- 32MB 4X AGP Matrox G400 Max Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- NEW Microsoft® Windows® 2000 Professional
- 3-Yr Next-Business-Day On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$3469 E-VALUE CODE 89892-490634

BUSINESS LEASE: $96/MO., 48 MOS.[11]

ASK ABOUT OUR AIA DISCOUNT.

SYSTEM UPGRADES

Graphics Cards:

- NEW 32MB 4X AGP Synergy Force
- NEW 64MB 4X AGP GLoria® II Pro (420 & 620 only)
- Intense3D Wildcat® 4110 Pro (420 & 620 only)
- NEW IEEE 1394 Adapter Card

Monitors:

- 17" (16.0" vis) P780 FD Trinitron® Monitor
- 19" (17.9" vis) M990 Monitor
- 19" (17.9" vis) P991 FD Trinitron® Monitor
- 21" (19.8" vis) P1110 FD Trinitron® Monitor
- 15" (15.0" vis) FP1501 Flat Panel Monitor

Operating Systems:

- NEW Microsoft® Windows® 2000 Professional
- Red Hat® Linux™ 6.2(420 & 620 only)

DELL.COM

GET EXACTLY WHAT YOUR BUSINESS IS LOOKING FOR. | **800.759.0894** | WWW.DELL.COM

USE THE POWER OF THE E·VALUE CODE.
Match our latest technology with our latest prices. Enter the E·VALUE code online or give it to your sales rep over the phone.
www.dell.com/evalue

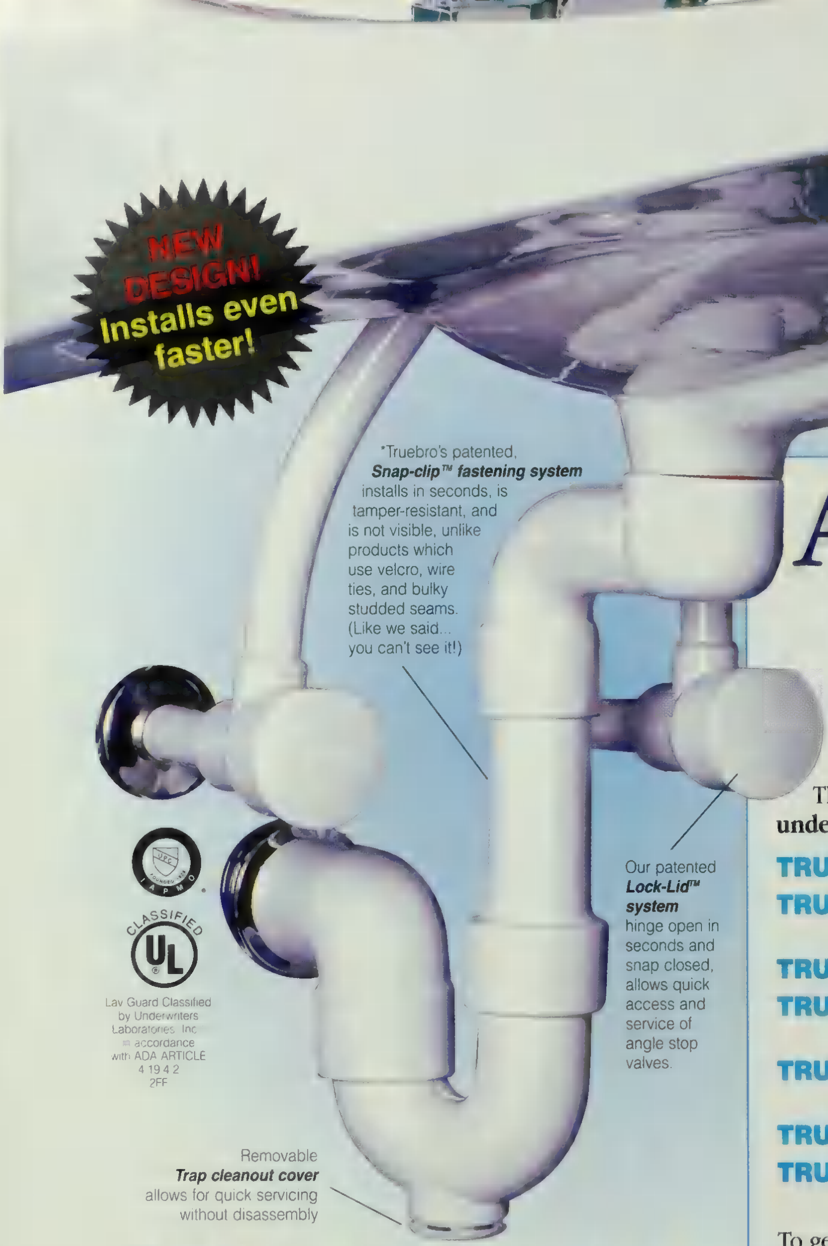
Dell recommends Windows 2000 Professional for business.

Call: M-F 7a-9p | Sat 10a-6p | Sun 12p-5p CT | Canada: 800-839-0148 | Mexico: 01-800-021-4531 | GSA Contract #GS-35F-4076D

Prices, specifications, and availability may change without notice. Taxes and shipping charges extra, and vary. Cannot be combined with other offers or discounts. U.S. only. For a copy of Guarantees or Limited Warranties, write Dell USA L.P., Attn: Warranties, One Dell Way, Round Rock, Texas 78682. [3]Service may be provided by third party. Availability [illegible] Technician will be dispatched, if necessary, following phone-based troubleshooting. [5]For hard drives, GB means 1 billion bytes; accessible capacity varies with ope[illegible] environment. [11]Business leasing arranged by Dell Financial Services L.P., an independent entity, to qualified customers. Lease payments based on 48-month 10% purchase [illegible] lease and do not include taxes, fees and shipping charges. Subject to credit approval and availability. Lease terms and pricing subject to change without notice. Intel [illegible] Inside logo, and Pentium are registered trademarks and Intel SpeedStep, Pentium III Xeon, and Celeron are trademarks of Intel Corporation. MS, Microsoft, BackOffice IntelliMouse, Windows NT, and Windows are registered trademarks of Microsoft Corporation. 3Com is a registered trademark and Fast EtherLink [illegible] trademark of [illegible] Corporation. HP and DeskJet are registered trademarks and OpenView is a trademark of Hewlett-Packard Corporation. Trinitron is a registered trademark of Sony Corporat

©2000 Dell Computer Corporation. All rights reserved.

10800/TRU
BuyLine 9143


NEW DESIGN!
Installs even faster!
*Truebro's patented, **Snap-clip™ fastening system** installs in seconds, is tamper-resistant, and is not visible, unlike products which use velcro, wire ties, and bulky studded seams. (Like we said... you can't see it!)
Our patented **Lock-Lid™ system** hinge open in seconds and snap closed, allows quick access and service of angle stop valves.
Removable **Trap cleanout cover** allows for quick servicing without disassembly
IAPMO
CLASSIFIED UL

Lav Guard Classified by Underwriters Laboratories Inc in accordance with ADA ARTICLE 4 19 4 2 2FF

EXCEEDS **ADA** REQUIREMENTS

Affordable... *and a Snap* to install!*

LAV GUARD by TRUEBRO

The *truly* better, federally mandated solution to **under-sink protection** that...

- **TRUE-ly meets and exceeds ADA regulations**
- **TRUE-ly is ASTM tested and certified by *UL*, *IAPMO*, and the City of Los Angeles**
- **TRUE-ly is affordable for any budget**
- **TRUE-ly is quick and easy to install and fully rotatable**
- **TRUE-ly is tough enough to stand up to commercial traffic**
- **TRUE-ly is anti-microbial**
- **TRUE-ly makes an attractive and professional installation**

Proudly Made in the U.S.A.

To get all the facts request your FREE brochure today! There's no obligation... and you'll quickly see why TRUEBRO is *truly better!*

LAV GUARD™
UNDERSINK PROTECTIVE PIPE COVERS

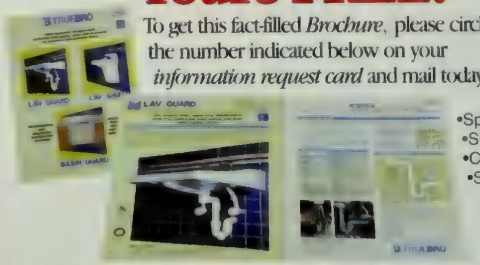
Also available...

LAV SHIELD™
LAVATORY PROTECTIVE ENCLOSURES

BASIN GUARD™
UNDERSINK PROTECTIVE ENCLOSURES

Yours FREE!

To get this fact-filled *Brochure*, please circle the number indicated below on your *information request card* and mail today!



- Specs!
- Sizes!
- Colors!
- Styles!

TRUEBRO
MAKING AMERICA ACCESSIBLE
7 Main Street • P.O. Box 440 • Ellington, CT 06029
Tel 800-340-5969 • www.truebro.com

CIRCLE 67 ON INQUIRY CARD

the BEST in ROOFING METALS

TCS® AND TERNE just got better!

Newly developed TCS II® and TERNE II® offer better corrosion resistance than Follansbee's original TCS and Terne. Coated with a new, revolutionary alloy of zinc and tin, these new environmentally-friendly roofing metals are oxygen-reactive, enhancing their performance in all atmospheres including those in marine areas.

The new alloy, while retaining solderability, is substantially more abrasion and smudge resistant. TCS II does not require painting and transforms its color to an earth-gray oxide as it weathers. TERNE II requires painting and its surface has an excellent affinity to paint.

Follansbee offers you these two outstanding roofing metals-combining many of the time-tested characteristics of the original metals with metallurgical and production improvements which answer the demanding needs of the next century.

We'll be happy to send you substantiating evidence of the excellence of TCS II and TERNE II. Call us toll-free at 1-800-624-6906.

Creating outstanding roofing metals
for more than a century

FOLLANSBEE®
FOLLANSBEE STEEL • FOLLANSBEE, WV 26037
FAX 1-304-527-1269

Visit us on the Website:
www.follansbeeroofing.com

Our E-Mail address:
folrfg@lbcorp.com

TCS II® and TERNE II®

for enhanced corrosion resistance
in marine and chemical atmospheres

CIRCLE 39 ON INQUIRY CARD

The New Walkerduct Pro Series: The Only System That Connects You With Power, Communications And The Future.

Today is the day you can start designing for the future. Thanks to the innovative new ®Walkerduct Pro Series.

The Walkerduct system now features FiberReady™ raceway and fittings to meet all fiber optic and Category 5 installation requirements. With a larger bend radius in all system components, the Walkerduct system is the only underfloor duct on the market designed to protect the integrity of fiber all the way from the wiring closet to the workstation activation.

With fiber loop storage in the new, extra-large preset and ample room to make fiber and CAT 5 connections, the Walkerduct Pro Series is the ideal infloor system for current and future wire management needs.

Other Walkerduct improvements include flush service fittings in your choice of 1, 2 and 3-gang configurations. And over 60 Interlink Activate™ modular data and communications inserts snap directly into the fittings, along with flush power connections that make the low-profile service fittings as functional as they are good looking.

Even with all these improvements, the best part of the Walkerduct Pro Series infloor system hasn't changed – it's still an integral part of the total wire and cable management system from The Wiremold Company. To find out what the future looks like, call 1-800-240-2601. Or visit www.wiremold.com

WIREMOLD®
Walker® Infloor Systems

CIRCLE 74 ON INQUIRY CARD

The New New Loft

WHILE PUNDITS POSTULATE A NEW ECONOMY, AMERICAN OFFICE DESIGN IS STUCK IN THE OLD. INNOVATION TIPTOES IN, THANKS TO ENTERPRISING ARCHITECTS.

1.

Armonk, N.Y.

At Swiss Re, a collaborative environment takes on a serene form with the aid of ample daylight and the stunning views afforded by its rocky hilltop site.

2.

Madison, Wis.

In the shadow of the state capitol, a mixed-use structure infills a tattered downtown block while respecting its varied scale.

3.

Berlin

The GSW building's stylish exterior only partly reveals its impressive array of energy-saving innovation and staff amenity.

4.

San Francisco

A fast-tracked hybrid of new and existing construction, 475 Brannan Street caters to the hipness factor of dot-com tenants.

By James S. Russell, AIA

We all need a little poetry in our lives," says Dolph Schnebli, commenting on the handsome and commodious headquarters he designed for Swiss Re, a financial services company in Armonk, N.Y. "The luxury of space is something only architecture can give." In an era of unprecedented prosperity, however, architecture is a luxury American business too often does without. While constructed to a high standard by today's measures, Swiss Re is undeniably a product of our uneasy, short-term-focused, first-cost-driven era. One of Switzerland's most respected architects (acting as mentor and teacher to many of the figures who are today earning international reputations), Schnebli has, for Swiss Re and other clients, designed some of the most technically sophisticated, energy-efficient corporate facilities in Europe.

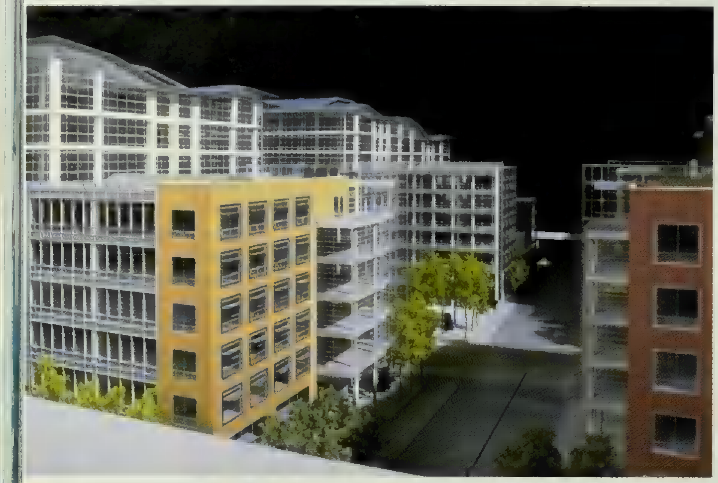
But not in America. "We are used to being involved on a conceptual basis, to thinking about the building technics and economic use of energy," Schnebli explains. Instead, his firm was selected only to design the core and shell. The client hired a project manager, who engaged the structural and mechanical engineers and additional architects to do working drawings and interiors. "We like to coordinate the structural and mechanical engineering and take pleasure when the whole thing is an elegant solution," says Schnebli. Though Swiss Re stands out as a carefully crafted project, sensitive to the collaborative business culture its company fosters, it is also an example of how spec-building norms drive the office-building design process in America. Value engineering removed from the project the energy-conserving strategies Schnebli uses in Europe. Though it meets current standards in America, Swiss Re's energy consumption would not be permitted in Switzerland, he says.

Where's the innovation?

Energy conservation is not the only area in which America is slipping. Turn to page 156 to see the kinds of staff-amenable yet energy-stingy strategies architects Sauerbruch + Hutton have packed into the GSW headquarters. Almost radical when the building was designed, these techniques have rapidly migrated into the building-construction mainstream in Europe. But only a few American buildings incorporate such an array of strategies.

The aversion to architectural innovation is not a new phenomenon in America, but it has become more glaring—an irony, given the generally ebullient economy. The reasons for this rut appear to be diverse, from liability concerns to a mania for corporate benchmarking (which

Dot-coms change the rules: ample light, exposed concrete framing, and large floor plates in mid-rise structures characterize First and Harrison, designed by STUDIOS Architecture with Jim Jennings (below).



Ribbonlike lateral-bracing elements wrap a mid-rise tower for multimedia businesses in Culver City, Calif., designed by Eric Owen Moss (top and bottom right).

makes companies more comfortable choosing a middle ground) to the myth of the "edifice complex," which goes like this: Company finishes flashy new quarters and promptly spins into decline (an unfounded myth, according to Robert Bruegmann, an architectural historian who has long studied corporate design).

The project-delivery method, which dates from the 1980s and is preferred by corporate clients, can bar innovation. As at Swiss Re, clients choose separate designers for core-and-shell and interiors. The team may be wholly or partly selected by a construction manager or contractor, who also is charged with "value engineering"—a process that is supposed to balance a range of concerns but can instead degenerate into cost cutting. Such a fragmented team, with such a narrow mandate, can only innovate under extraordinary circumstances.

Joe Valerio, of Valerio Dewalt Train, was lucky to have Brad Binkowski as a client. For 33 East Main Street (page 152), Valerio priced out the kinds of energy-saving double-curtain-wall systems that are becoming common in Europe, and found they cost three times the price of a standard American curtain wall. Valerio could only make this kind of facade work by reinventing it with lower-cost, off-the-shelf components. "It was really hard to find a manufacturer willing to work with us," he says. While American business justifiably touts the more agile and collaborative management structures it has developed in recent years, it has not demanded similar advances in the delivery of its facilities.

Not all is hidebound. ADC, a company that uses increasingly multidisciplinary and collaborative means to make telecommunications components, is building a new campus outside Minneapolis that sets a high standard for staff amenity (opposite bottom). The envelope is pulled here and there to form atriums, which provide unusually appealing settings for meetings and teamwork. Building wings are relatively narrow so nearly every staff member can have a window or look into an atrium. Additional atriums between wings act as thermal buffers, minimizing the total perimeter exposed to punishing upper-Midwestern winters. "The client has asked us to consider humanizing the work environment in every move we make, from master planning to interiors," says Manos Ginis, AIA, the principal in charge of the project at HGA, of Minneapolis. "We're exploring and redefining every system in the building."

When skateboard kids rule

Perhaps an even more important vision of the white-collar office has come clattering to life on the construction-fevered streets of San Francisco. In the once-decrepit South-of-Market neighborhood, rechristened Multimedia Gulch, a new Gold Rush is under way, driven by the billion-dollar dreams of "new economy" Internet entrepreneurs and the open wallets of venture capitalists. Developers and architects cannot convert the former garages, factories, and lofts quickly enough to accommodate companies that months earlier may not have existed. For businesses in the throes of fevered growth, the time it takes to design and build out physical space is highly inconvenient. Companies compress schedules to a few months but outgrow space between lease signing and the last hastily screwed-in piece of drywall.

Such a superheated climate would seem to offer little opportunity for good architecture. Indeed, even fast-tracked projects seem luxurious by comparison. But many architects are finding opportunity by riding this wave. In 1997 Louise Harpman and Scott Specht, of Specht Harpman, assembled the first tiny offices for Funny Garbage, a multimedia pioneer in New York City, using friends and the clients themselves as contractors. Today, the architects are working on their fifth project for the company: 50,000 square feet of new space. "Design is important to these clients," says Harpman. "But they also need to show that they are pouring all their venture-capital dollars into the company. It's got to be cool enough to attract top talent, but not so cool that it seems expensive."

San Francisco architect Peter Pfau agrees. "The hipness factor brings with it a strong value on architecture." His firm, Pfau Architecture, is pioneering speculative new construction for Internet businesses. "People come to work on skateboards with blue hair and rings in their noses," he explains. "They don't want conventional Class A space. Dot-com space is rougher, edgier, with exposed ceilings and cable trays running data around."

Pfau works with SKS, a developer, on such projects as the 475 Brannan Street [page 162]. "They got in ahead of the curve working with us, so we have invented the type. They are not formula-oriented, however. They want each building to have its own character," says Pfau. "So far, it has been quite varied, where some are ground-up and others adapt existing buildings."

In several cities, architects are devising new prototypes that offer the flexibility, amenity, and character of loft space. Among the first large-scale speculative projects oriented to such companies is First and Howard, a 1.1-million-square-foot San Francisco development designed by Studios Architecture (with Jim Jennings as consultant) for one of the few substantial open sites South of Market. The square footage was divided into four mid-rise buildings that ring a courtyard, a space around which several tenants can develop distinct identities. The design also departs from standard development models in its concrete framing (which tenants will probably leave exposed), large floor plates, ample provision of light, and raised access floors with underfloor air supply.

Richard Keating, of Keating/Khang, an architect who has made a career of designing Class A buildings for prominent developers, has his own recipe for the dot-com tenant. Though he's designed a prototype, none of his clients has yet committed. "But it's coming. Look at how John Portman blew out the hotel type or how Jon Jerde transformed shopping malls. We're right on the cusp of something really new." Craig Hartman, partner at Skidmore, Owings & Merrill's San Francisco office, thinks some of his firm's emblematic 1950s work offers an analogy: "Walter Netsch actually thought of Inland Steel [Chicago, 1958] as a series of stacked lofts. It has offset cores, glass on four sides, and columnless floors."

It is, however, unclear how innovative such structures could actually be. When Hartman proposed an updated version of the Netsch "loft" high-rise, he says, "I was slapped into shape by a developer because he said the amount of perimeter wall was way overboard."

The design-driven nature of so many dot-com startups may yet break the grip of just such formulaic thinking. Designers find many clients refreshingly open-minded and hungry to collaborate. Architects who can wrap their skills around highly compressed schedules and work creatively in a volatile environment are invited to help clients shape a distinctive culture and image. But can innovation—technical, ecological, urbanistic, sociological—be driven deeper into the office-building production process? Only when the biggest and most respected players—Microsoft, Cisco Systems—decide to make their facilities as innovative as their products. ■

Specht Harpman built in high-craft, low-tech components for Hurd Studios, a computer-animation studio in New York City (above). HGA pulled out the exterior wall to form atriums at ADC Technologies (below). Additional atria form interior courtyards between wings.

Swiss Re

Armonk, New York

1

SCHNEBLI AMMANN MENZ DESIGNED A COLLABORATIVE ENVIRONMENT THAT TAKES SERENE FORM WITH THE AID OF AMPLE DAYLIGHT AND VIEWS.

By Akiko Busch

Architect: *Schnebli Ammann Menz Architects and Partners—Dolf Schnebli, Sacha Menz, Yonas Mulugeta, Karin Reifler*
Associated architects: *Steven Fong Architect—Steven Fong (associated architect); Adamson Associates—Jim Bagby, Ann Daniel (production architect)*
Consultants: *Iu & Associates—Carolyn Iu, Farid Iskander; Perkins & Will—John Lijewski, Don Williams, Jena Hwang (interiors); Susan Brady Lighting Design (lighting)*
Engineers: *Yolles Partnership (structural); Cosentini Associates (mechanical)*
Project manager: *RWG Associates*
Contractor: *Turner Construction*

Size: *297,000 square feet on 127 acres*
Completion date: *March 1999*

Sources
Copper Cladding: *Revere*
Curtainwall: *Flour City Architectural Metals*
Storefront glazing: *Wausau Metals*
Stone paving: *Vermont Structural Slate*
Hardware: *Von Duprin, Schlage*
Metal Ceilings: *Ceilings Plus*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

Program

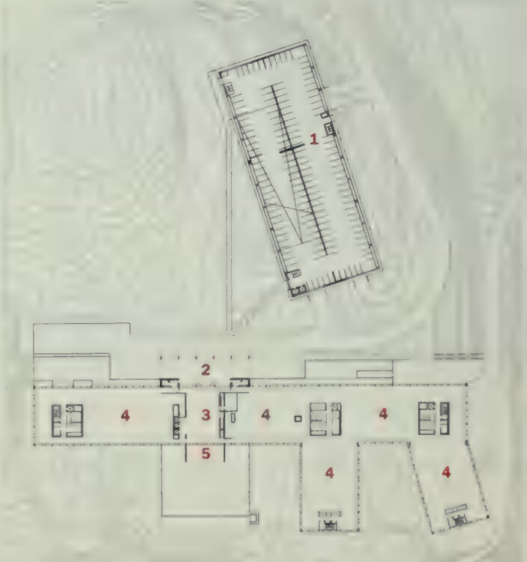
If a corporate office is designed to promote teamwork, it must first acknowledge the myriad likely and unlikely ways people will find to gather and converse. Such was the case at Swiss Re America, a division of the international insurance concern based in Zurich.

The company operates on the conviction that architecture can be a significant factor in the search for talent and sponsored a competition inviting such firms as Richard Meier, HOK, STUDIOS Architecture, and Swanke Hayden Connell to submit ideas.

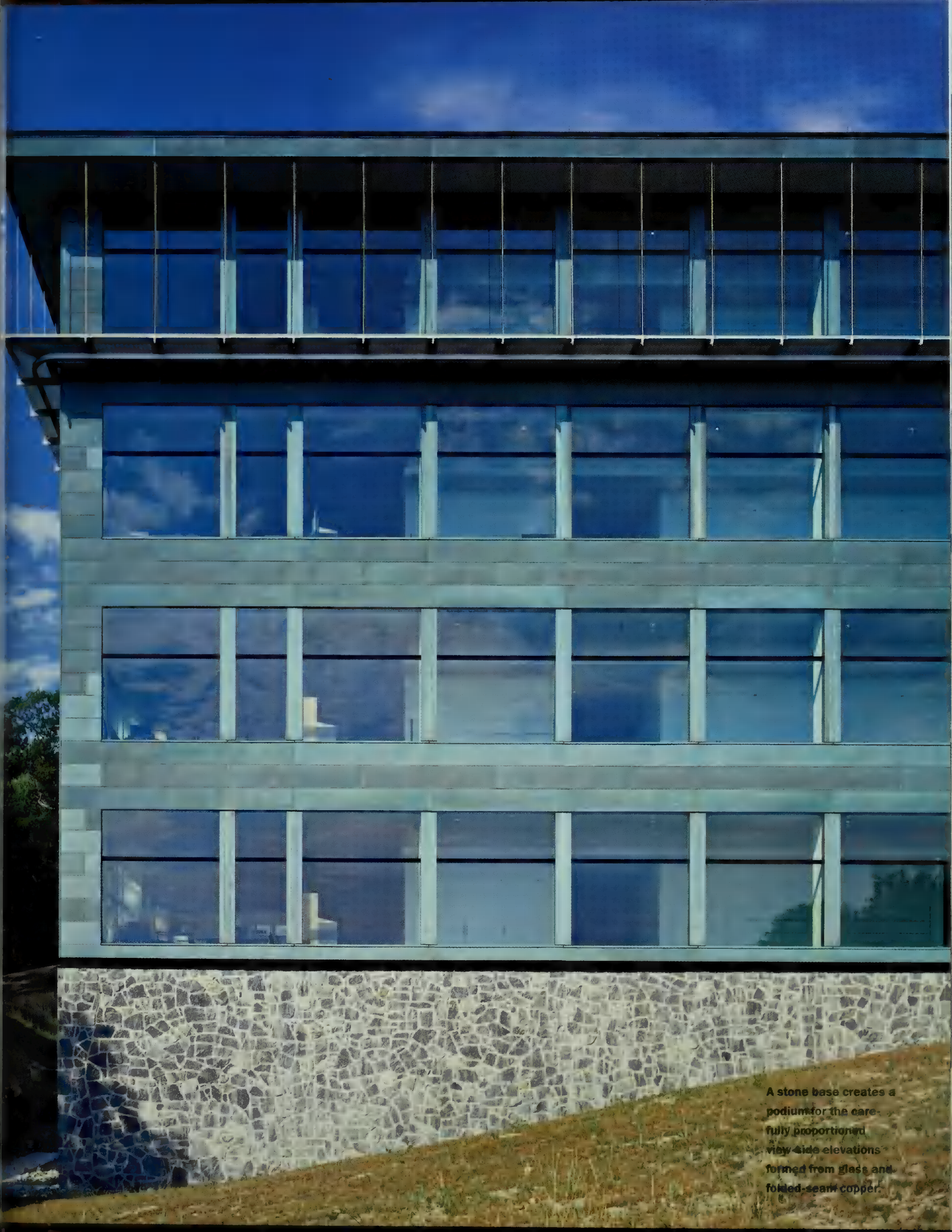
The Schnebli Ammann Menz plan that was ultimately selected emphasized a sense of openness and community for some 700 employees. With interior architects Iu & Associates and Perkins & Will, Schnebli designed an open office landscape that acknowledges the unpredictable nature of human interaction; it has been highly engineered for the vagaries of sitting around talking.

While offering amenities such as a fitness center and spacious 200-seat cafeteria (equipped with a live-broadcast hookup), the building accommodates encounters ranging from the improvisational to major corporate ceremonies through the provision of casual meeting areas, small private meeting rooms, formal conference rooms, and five video teleconferencing rooms. Such a bal-

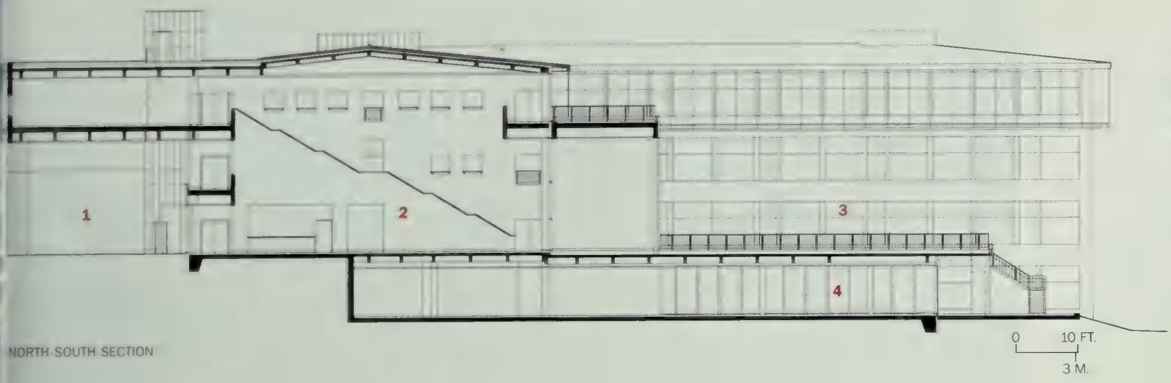
1. *Parking structure*
2. *Entry plaza*
3. *Lobby*
4. *Office*
5. *Terrace*



SECOND FLOOR PLAN



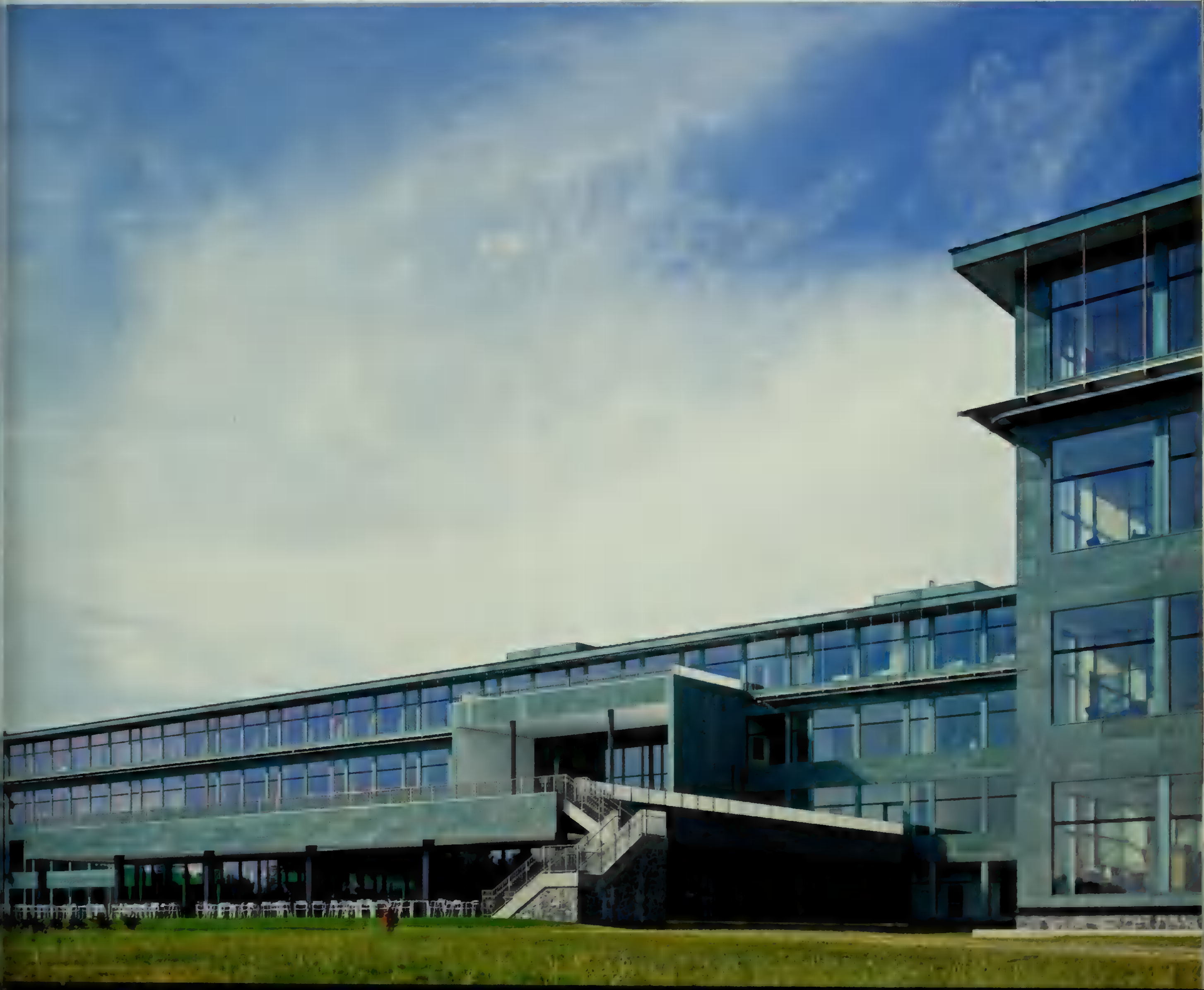
A stone base creates a podium for the carefully proportioned view-side elevations formed from glass and folded-seam copper.



NORTH-SOUTH SECTION

1. *Entrance*
2. *Lobby*
3. *Terrace*
4. *Cafeteria*

The entrance elevation (opposite top) hints at the view to be found after passing through the cubic lobby (section) to an expansive terrace (below). Sunshades screen the south-facing view side (opposite bottom).



The cafeteria (right) takes advantage of site views. The lobby ceiling's a rich persimmon color dramatizes its 45 ft height. Low-voltage halogen lights read as an abstract pattern in the ceiling

ance of private and communal space establishes a lively rhythm, both social and architectural.

Solution

The building is set on a topographically challenging 127-acre site. A grassy allee, once the entrance to a private residence on the property, leads from the parking garage tucked into an adjacent hillside to the entrance. This approach carries the eye through the glass-walled lobby to a vast stone-paved terrace that opens to vistas of wooded ridges and the picturesque Kensico Reservoir.

The building's three-story, 700-foot-long volume undulates across the bumps of the sloping site, extending two fingerlike wings southward towards the lake. The plan opens a maximum of floor area to light and views, while allowing for the addition of further wings in the future.

The spacious lobby was planned as a corporate village square, the locus for important meeting places—dining areas, conference center. In establishing a sense of both commerce and community, Schnebli likens its rush-hour bustle to "that of the old railway-station arrival halls."

A similar sense of expansiveness is evident elsewhere in the interior. Neither the main volume of the building nor its two wings are more than 80 feet wide, ensuring that no workstation is more than forty feet from a window. Eleven-foot ceilings also assure that abundant light

Perforated metal ceiling were shaped to bounce daylight deep into the floor. Interior designers Perkins & Will and Carolyn Iu supplied ample meeting places (below) but designed few enclosed offices (left).

enters the deepest reaches of the floors. Even employee stairways, positioned at the southernmost end of the two wings, offer views of the lake and were designed to serve as impromptu meeting areas.

Material

Dubbed a "landscraper" by Schnebli, the building has been positioned precisely atop a stone base that varies in height to accommodate the rolling terrain of the site. Prepatinated copper paneling sheathes the exterior in horizontal bands—except for the volume of the entrance canopy and conference center overhead, where the panels have been placed vertically. The panels were joined on the site using a folded-seam process traditional to copper roofing.

A system of anodized-aluminum catwalks with stainless-steel rods bands the entire third floor of the building. While adding an elegant visual layering to the elevation, it also reduces solar-heat gain on the glass and gives access to window washers.

Schnebli is emphatic that materials reflect their place, and both the Vermont slate used for terrace and lobby flooring and the Yonkers Gneiss used for the building base are classic New England building materials. Throughout the building, a custom fabricated ceiling of perforated metal panels organizes lighting, sprinkler systems, and air diffusers without undue clutter. The precise proportions and engineered austerity are happily undercut by voluptuous surface treatments. Aside from the lobby ceiling, polished black granite (nero assoluto) clads baseboards and portals, while richly patterned bands of limestone on the floor work as a foil to the more subtly patterned gray-green of the Vermont slate. Anagray, a wood with a rippling grain, veneers walls and built-in cabinetry in the executive suites. It offers a tactile, even indulgent sensibility.

Commentary

Set apart on its lushly planted site, Swiss Re could be seen as an old-school corporate redoubt. And yet the sense of serious, directed purpose expressed by this structure makes it unique. "All of the measurements in relationship to all of the other measurements create pleasant and attractive spaces," Schnebli has written. Just such a sense of proportion is evident here. While the expansive scale of the lobby, for example, could be viewed as an expression of corporate pageantry (in the name of a village square), it perceptibly shares humanistic proportions and scale from portals and staircases down to the window mullions.

The vistas of rolling woodlands and lake, together with the palpable commitment to staff amenities, create an environment that is calm and contemplative—perhaps the most conducive workplace for our jangled era. ■

Block 89

Madison, Wisconsin

2

VALERIO DEWALT TRAIN KNITS TOGETHER A DOWNTOWN COMMERCIAL BLOCK BY WEAVING NEW CONSTRUCTION INTO OLD.

By Cheryl Kent

Architect: *Valerio Dewalt Train—Joseph Valerio, FAIA, David Jennerjahn, AIA, Jim Bogatto, Elana Saltzman, Ted Duncan, Heather Wasilowski, Jim Wild, Steve Wilmot, Jason Hall, Christine McGrath, Andrea Kiesling, Stephan Katz, Gisela Schmidt, Nancy Willert*

Engineers: *Robert Darvis Associates (structural); Carl Walker (parking structure); Woodward-Clyde (geotechnical); WMA Consulting Engineers (mechanical)*

Consultants: *Smith Group (landscape); Charter-Sills & Associates (lighting); Vinci-Hamp Architects (historic restoration)*

Contractor: *J. H. Findorff & Son*

Size: *370,000 gross square feet with 770 underground parking stalls.*

Cost: *$19 million; $13.6 million (garage)*

Sources

Brick: *Marseilles Brick, Glen-Gery*

Stone: *Giallo California, Eagle Red, Dakota Mahogany, Mason; Giallo Veneziano (granite); Glacier Buff (Vetter Stone Company), Kansas limestone*

Curtain wall, glass: *Kawneer, Viracon, Wasco, Efco*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

Program

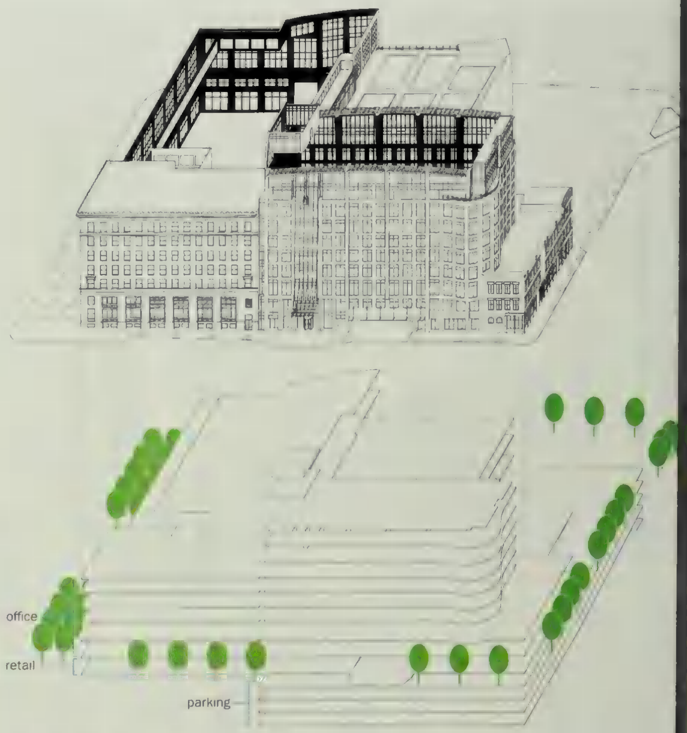
Block 89 was likely to be upstaged from the get-go, standing, as it does, just across the street from Cass Gilbert's handsome 1904 Wisconsin State Capitol in Madison.

To protect the sovereign dignity of the capitol, the zone around it—known as Capitol Square—is covered by design and zoning limitations on height and parking. The architect's charge was to redevelop this highly restricted block with speculative office space while maintaining some existing buildings. To conform to city policies encouraging storefronts on the square, retail was also included in the program. New construction on the block had to be staged to permit tenants—law firms for the most part—to remain in place during construction, eventually expanding as the new space was completed.

Complicated enough? There's more. During the five years of design and construction, the job changed almost continuously as the developers acquired more property on the block.

Solution

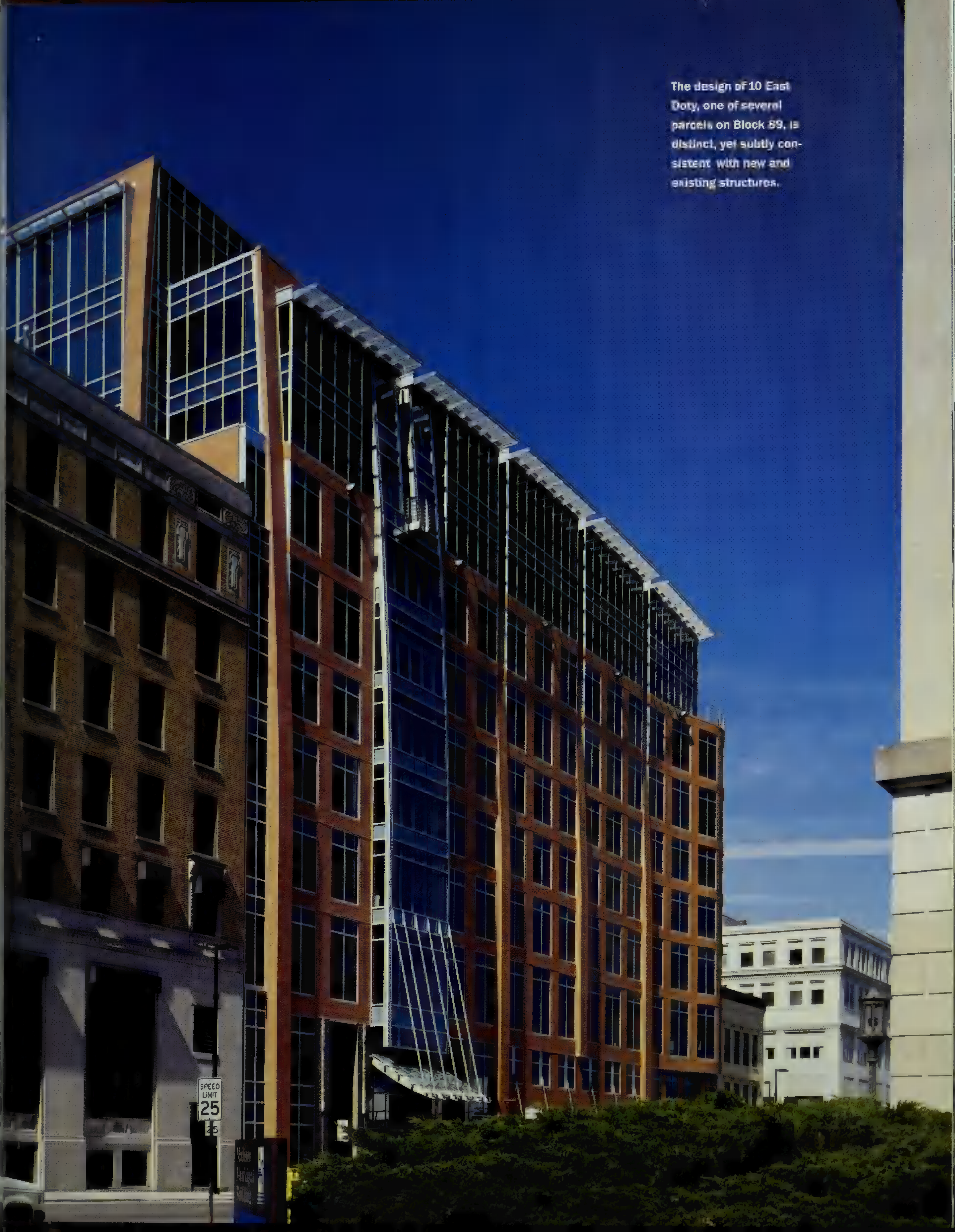
Rather than taking a monolithic approach, enfolding the existing structures in a single, suffocating architectural embrace, architect Valerio Dewalt Train treated each parcel on the block as a separate but related design. appropriately scaled to the preexisting footprints and the mandated height limits. And, the strategy proved resilient as the job evolved, permitting, for example, the final nine-story structure now in design development to be added in a way that is at once harmonious and distinctive.

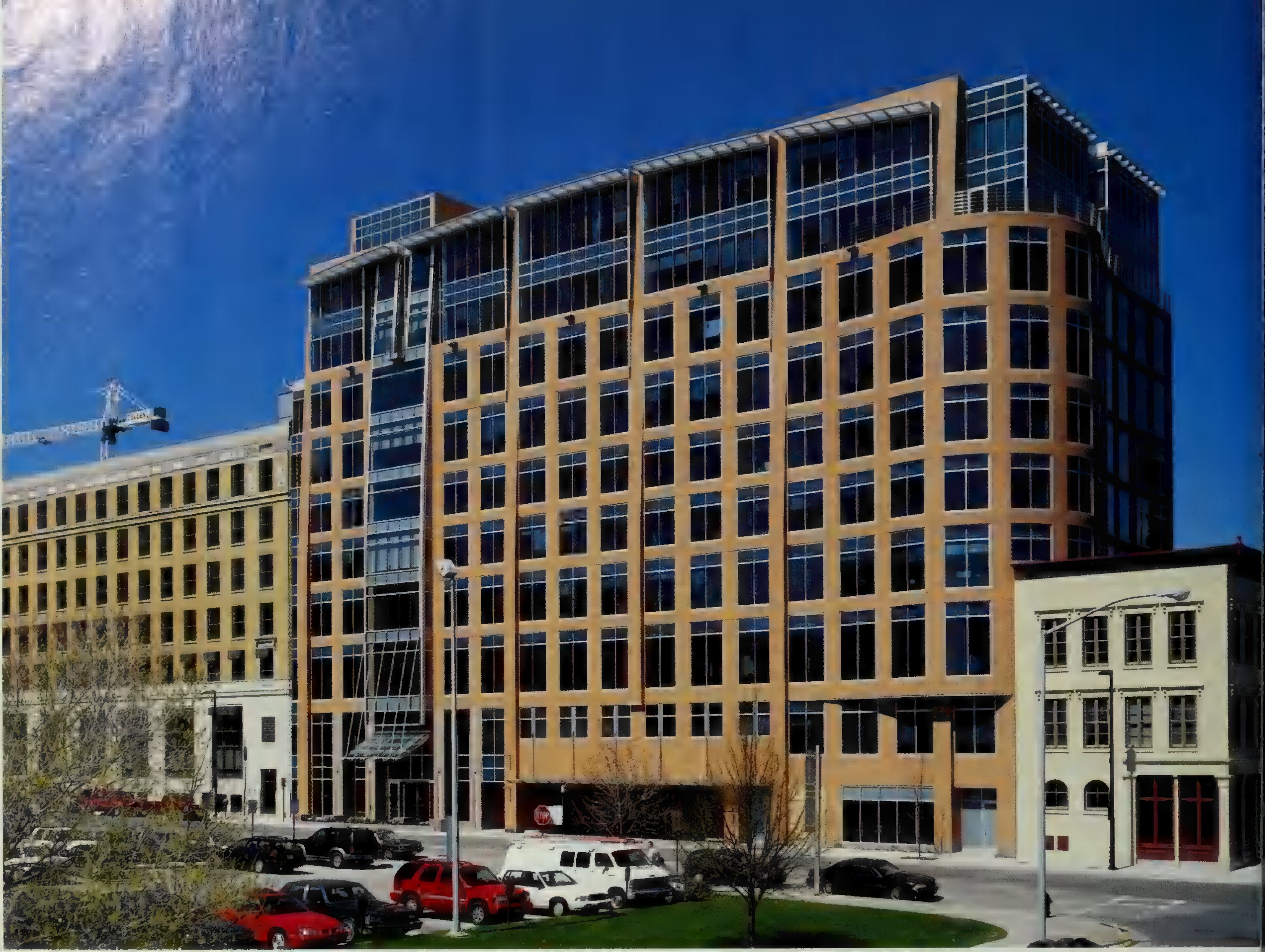


AXONOMETRIC AT EAST DOTY STREET

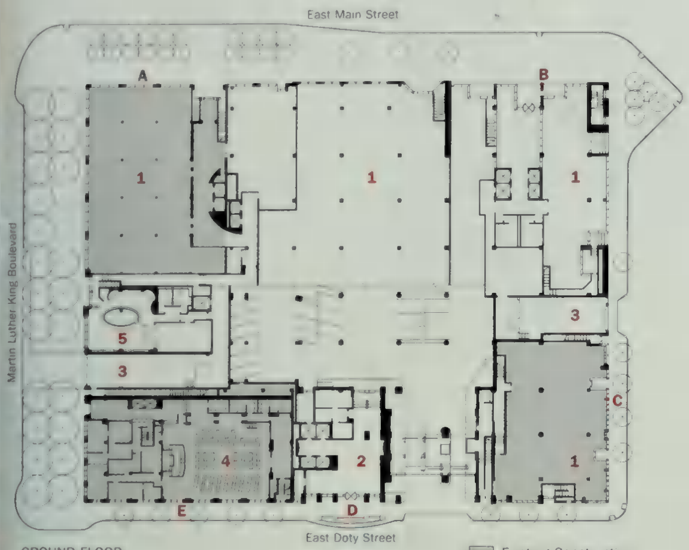
The project is a combination of new construction, infill, renovation, reconstruction, and hardcore engineering. Staging was one of the greatest challenges. First, a store and a popular restaurant were moved into a fashionably renovated and extended loading dock on an unused alley on the west side of the block. The restaurant's former quarters, a small historically important building known as the Burrows Block, was then dismantled and put in storage. Excavation for the five-story below-grade parking garage

Cheryl Kent, a Chicago-based architectural writer, is a regular contributor to the New York Times.


The design of 10 East Doty, one of several parcels on Block 89, is distinct, yet subtly consistent with new and existing structures.



A former insurance building (left in photo above) and the reconstructed Burrow's Block (right in photo above) bookend 10 East Doty, which is all-new construction. The Main Street elevation (right) was configured as a fresher extension of 1980s existing construction.

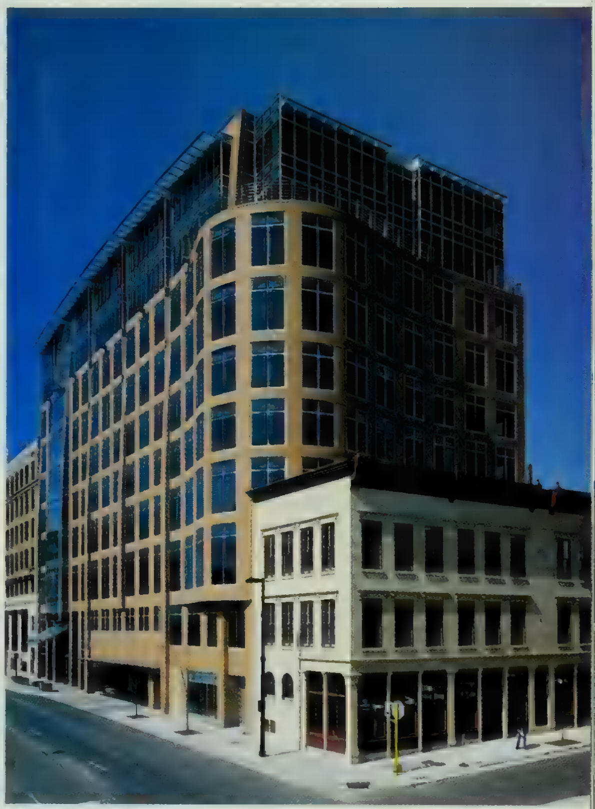


GROUND FLOOR

▨ Existing Construction

1. *Retail*
2. *Lobby*
3. *Service*
4. *Auditorium*
5. *Restaurant*

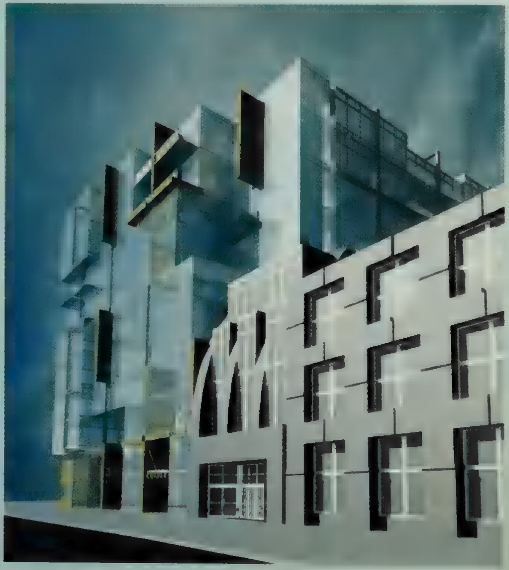
A. *One East Main (reclad)*
B. *33 East Main (future)*
C. *Burrows Block (facade reused)*
D. *East Doty (new)*
E. *Insurance Building (existing)*

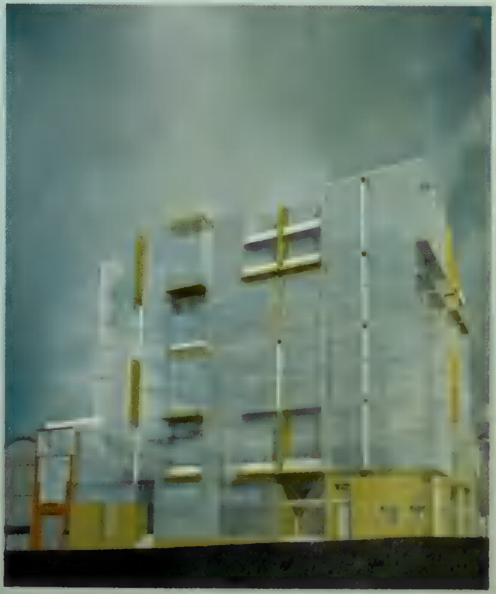


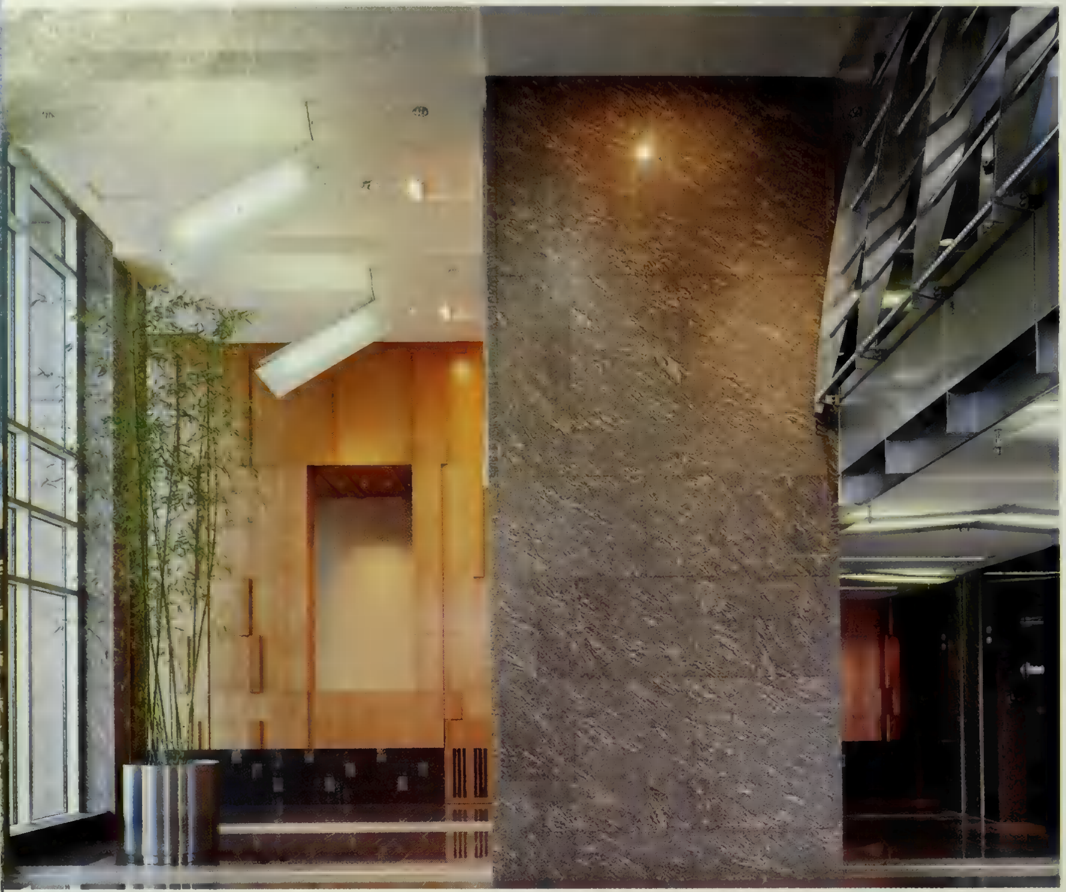
Parking extends under 10 East Doty (new construction), an existing retail structure, and the Burrow's Block (foreground right), which underwent considerable reconstruction.

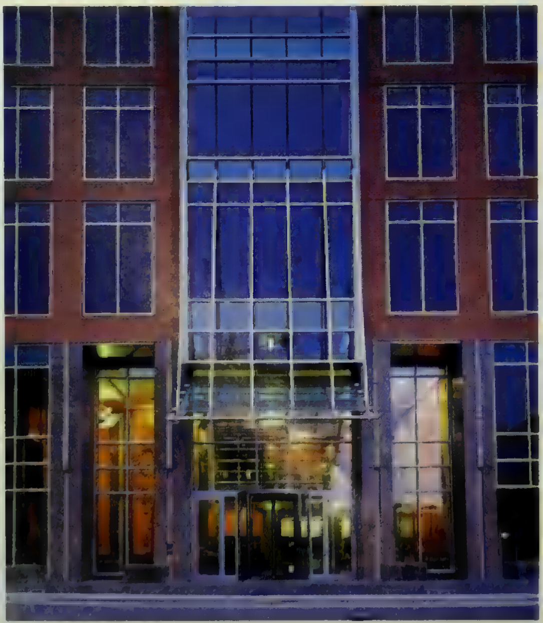
PUSHING THE (GLASS) ENVELOPE

"The client gained more confidence in us as the project proceeded," says Valerio Dewalt Train principal Joe Valerio. "They have allowed us to push 33 East Main Street much farther." Valerio explored the thermally buffering and naturally ventilating double-wall curtain walls now common in Europe, but their high level of customization proved too expensive. Instead, the architects are reworking a conventional system with curtain-wall maker Efco. Though still in design development, 33 East Main's facade will probably be formed with a two-layer system tied at masonry piers to a post-tensioned concrete frame. The windows will not be operable, however. Where the masonry panels penetrate the outer glass shell, they will read as horizontal and vertical planes, giving the envelope a structural legibility it would otherwise not possess.









Within a contextualist mandate the architect brought fresh insight to a canopy (below) and lobby (above).

began on the Burrows site and an adjacent lot. It was later extended under most of the block. A new 10-story office building rose on the south side of the block, at 10 East Doty Street, sandwiched between the reconstructed (although greatly altered) landmark Burrows and another partially renovated historic structure called the Insurance Building. Valerio Dewalt Train knitted together the floor plates of the three structures, offering tenants contiguous floor space into which they could expand.

On the north side of the block, opposite the capitol, the architects designed a low-rise retail building and an addition to a former department store that had been remodeled in a Postmodern moment nine years ago. Accepting the renovation for what it was, the architects adopted a compatible fenestration for the addition but created a more dynamic composition by bending the addition back into the existing department-store structure, which plays nicely off the complex curve of the new retail facade.

The last piece of the project fell into place when the clients acquired the property at the northeast corner of the block at 33 East Main. Here, the architects are designing a nine-story glass office structure that will contrast with the stone and masonry elsewhere on the block.

Structure

The greatest challenge was providing sufficient parking below ground when much of the block was taken up with existing buildings. Leaving in place all the structural columns for the renovated five-story department store would have meant eliminating 10 percent of the hoped-for parking spaces. Engineers solved the problem, replacing three of the columns with a large transfer beam.

Irregularities and weaknesses in the original stone that formed the facade of the Burrows Block made it impossible to reuse, so new stone of a comparable color and texture was used in its reconstruction. Rather than replacing the brick on the Burrows side elevation, the preservation architects decided to prettify the south side by wrapping it with a more formal stone facing, the better to complement the new construction. From photographs, the architects recreated the building's cornice and third floor, which had both been demolished long ago.

Commentary

The Burrows Block is more a fanciful recreation than the preserved building it is touted to be. Taken as a whole, however, Block 89 has achieved a fine-grained urban texture and detail for which Madison's design regulations were plainly intended. Surely it would have been simpler to build out the block with a single structure, as other developers have done. More than those, Block 89 has brought life to the neglected streets that lead to the capitol. Before this development, there were no major office structures on East Doty Street. Now it has become a destination. ■

Attorneys, generally aesthetically conservative, have embraced 10 East Doty Street's strikingly detailed lobby.

GSW Headquarters

Berlin

3

SAUERBRUCH HUTTON ARCHITECTS WRAPS AN ARRAY OF ENERGY-SAVING STRATEGIES AND STAFF AMENITIES IN A COLORFUL, STYLISH PACKAGE.

By James S. Russell, AIA

Architect: *Sauerbruch Hutton Architects—Matthias Sauerbruch, Louisa Hutton, Juan Lucas Young, Jens Ludloff, Brian Lilley, Philip Engelbrecht, Anna Bader-Hardt, Govert Gerritsen, Moritz Theden, Giovanna Albretti, Michail Blösser, Anne-Françoise Chollet, Denise Dih, Christian Galvão, Iman Ghazali, Christopher Hagmann, Felix Held, Susanne Hofmann, Karl-Friedrich Hörnlein, Heinz Jirout, Fredrik Källström, Jeff Kirby, Harvey Langston-Jones, Matthias Matschewski, Roger Mullin, Wolfgang Thiessen, Andreas Weber, Stefan Wirth*

Client: *Gemeinnützige Wohnungs- und Siedlungsbaugesellschalft*

Engineers: *Ove Arup + Partners, Arup GmbH, ARGE IGH (environmental); Dewhurst MacFarlane and Partners, Arup GmbH, IGH (structural); Emmer, Pfenninger + Partner (facade)*

Project manager: *Harms & Partner*

Size: *300,000 square feet total*

Completion date: *1999*

Sources

Facades: *Götz, Gefatec, Eternit*

"Wind" roof: *Koch Membranen*

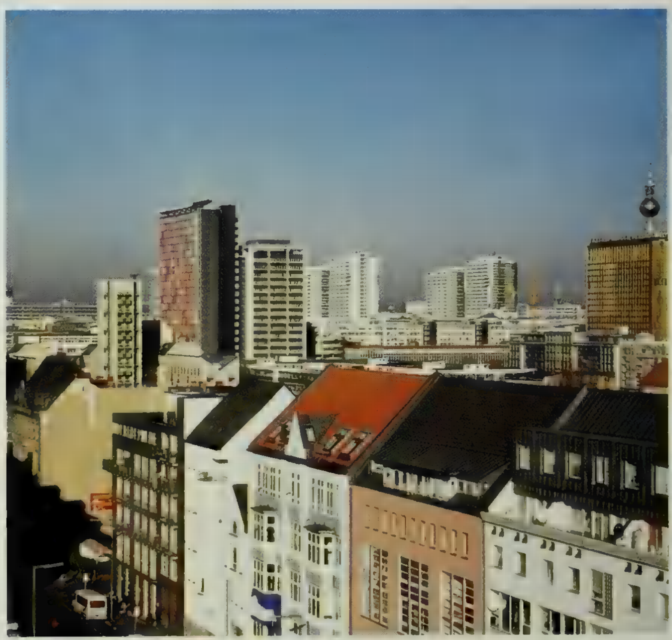
WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

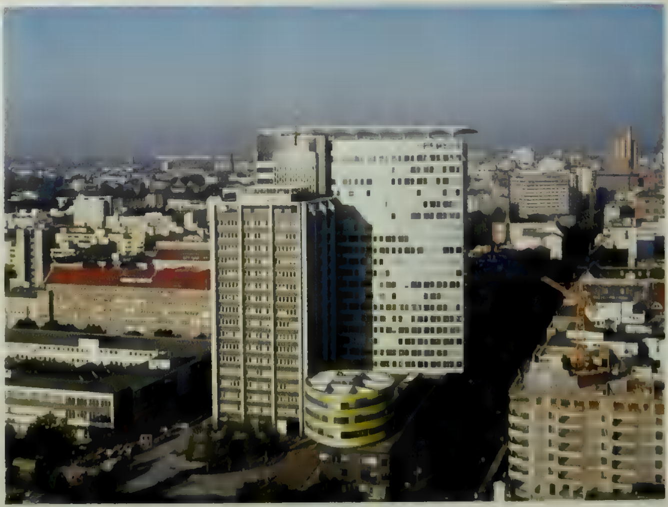
Program

Out of the dour, soot gray streetscape of Berlin, only steps from where soldiers faced off behind barbed wire and sandbags at Checkpoint Charlie, rises a most improbable sight. Like a 20-story-high pastel drawing by Paul Klee, the gently curving west-facing facade of the GSW headquarters presents a patchwork of white, beige, pumpkin, tangerine, and fuchsia.

That architects Matthias Sauerbruch and Louisa Hutton offer this cheery note on a skyline so well acquainted with tragedy is almost enough in itself. Within this suave package, however, the architects have also deployed technology and design to minimize reliance on mechanical systems for lighting, cooling, heating, and ventilating, making this one of the most sophisticated recent additions to the new wave of "ecological" office buildings that is gathering momentum in Europe [October 1995, page 80, and May 2000, page 198].

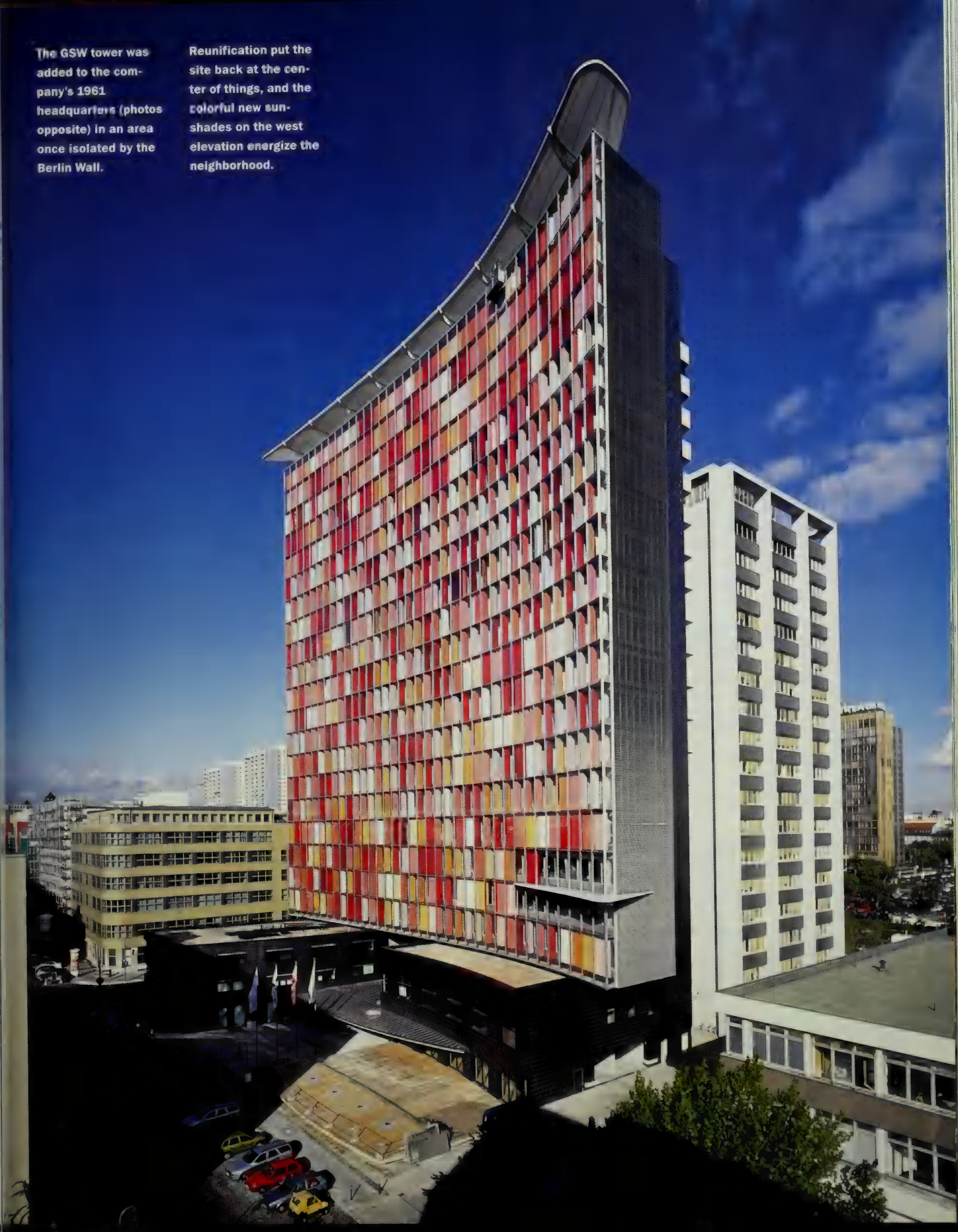
The client, which builds and manages subsidized public housing, held a competition in 1995 for an addition or replacement building that would signify the company's social commitment. The London- and Berlin-based Sauerbruch Hutton Architects won by proposing to maintain and update the company's existing building, while adding a new one designed to lower energy use radically.

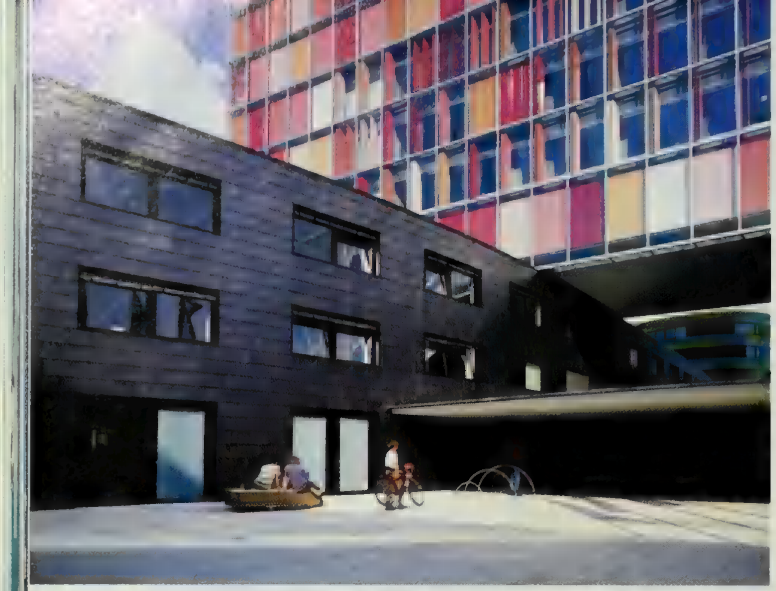




The GSW tower was added to the company's 1961 headquarters (photos opposite) in an area once isolated by the Berlin Wall.

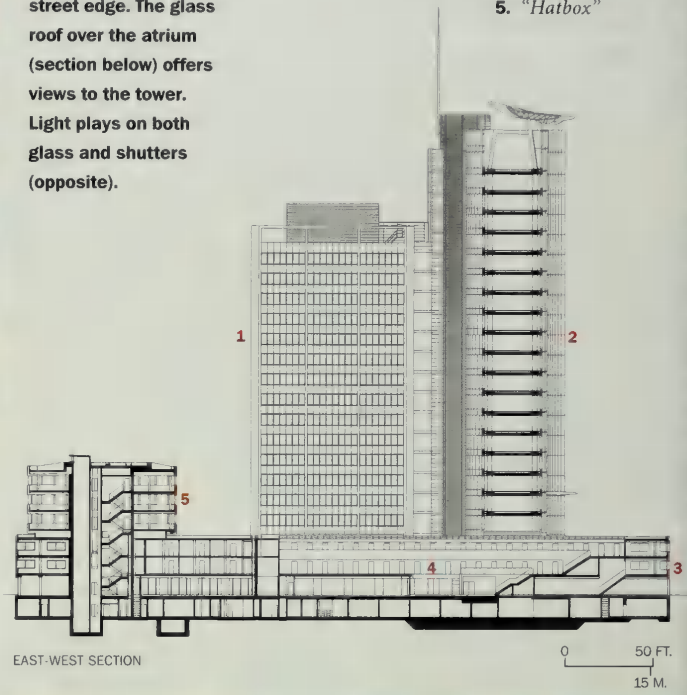
Reunification put the site back at the center of things, and the colorful new sunshades on the west elevation energize the neighborhood.





A curving low-rise structure (left and bottom) brings the older tower in touch with the street edge. The glass roof over the atrium (section below) offers views to the tower. Light plays on both glass and shutters (opposite).

1. *1961 tower*
2. *New tower*
3. *Low-rise structure*
4. *Atrium*
5. *"Hatbox"*



EAST-WEST SECTION

The architects brought the older tower into a clearer relationship to the street by adding a low-rise east-west oriented building, clad in a running bond of dark ceramic tile, which slips under the glassy bulk of the north-south oriented tower. This building animates the street with its curving form, crowning Day-Glo "hatbox," and ground-floor retail. It offers rentable space on upper levels and encloses entrance plazas.

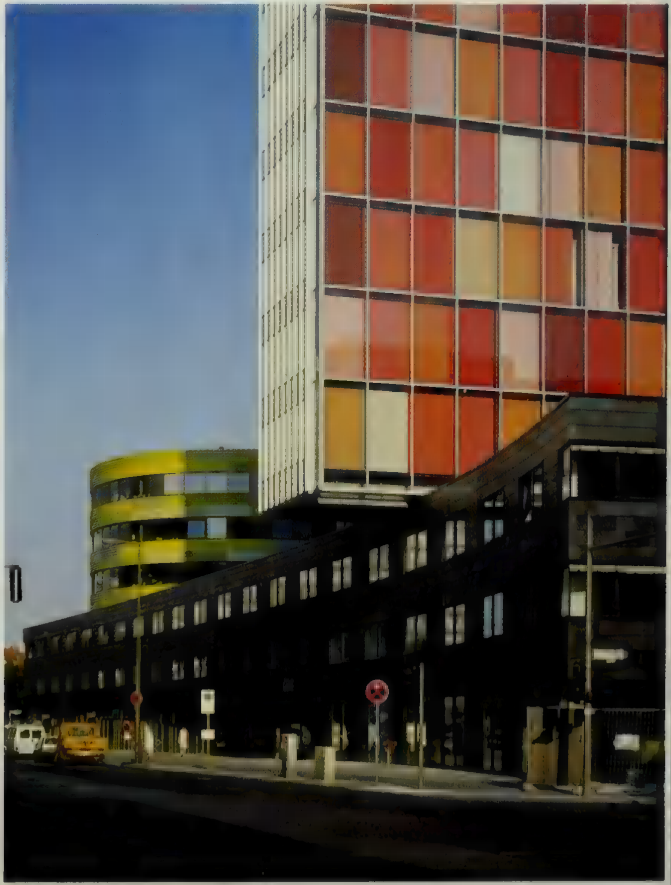
By American standards, the small-floor plate and single-loaded corridors of the new tower are highly inefficient. But the narrow floors allow daylight to pour in, obviating the need for electric light most of the time. The natural ventilation scheme reduced the need for costly mechanical systems and space-consuming ductwork. Not only did it offset some of the additional first costs for the high proportion of perimeter wall, it also permitted alignment of new floors to the low floor-to-floor heights of the existing tower.

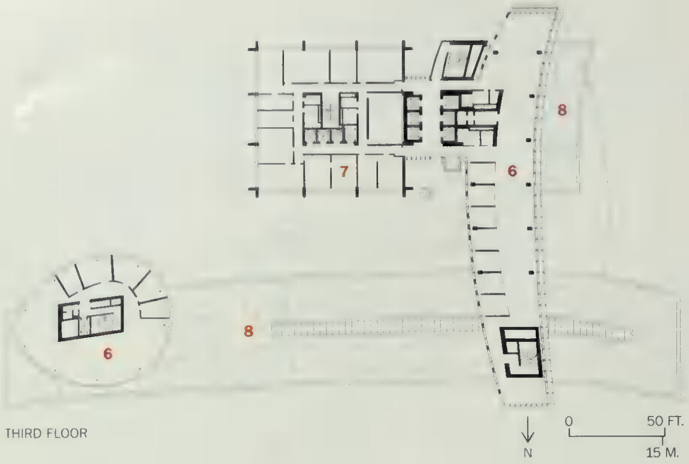
Low energy/high performance

The tower's energy consumption is predicted to be 40 percent below already strict German standards. It achieves this while giving occupants more control over light, ventilation, and temperature, by synthesizing a number of strategies that are becoming increasingly common in Germany and elsewhere in Europe. Because of financial constraints, the techniques could not be applied to the existing building, but its cladding and windows were repaired and upgraded.

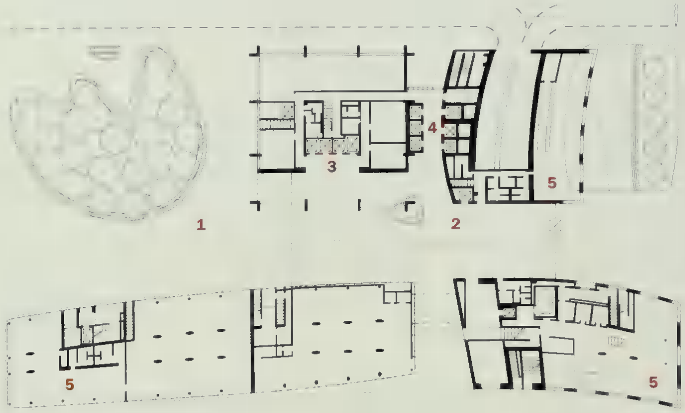
- Natural ventilation. Louvered wall panels on the east elevation open either manually or automatically to allow fresh air to enter. Air passes through an acoustically baffled opening in the office partitions and is drawn out through operable windows in the west facade to a three-foot-wide air space between the inner insulated-glass facade and a single-pane outer facade. This space runs continuously up the building as a thermal chimney: Heat generated by the sun or by internal loads rises, drawing in cooler fresh air. (The inner windows shut automatically in case of fire.) Cracking open the window and ventilating panels is normally enough to generate a pleasant airflow.
- Sun shading. Sliding and pivoting sunshades protect the west elevation from solar-heat gain. The perforated metal panels offer a scrimlike view even when fully closed. Colored, these shades lend the building its unique and ever-varying appearance. They move into place automatically, but occupants can change their position.

The existing building shades the eastern elevation much of the day, which in any event has a less critical shading need, because corridors or open offices are behind most of it.



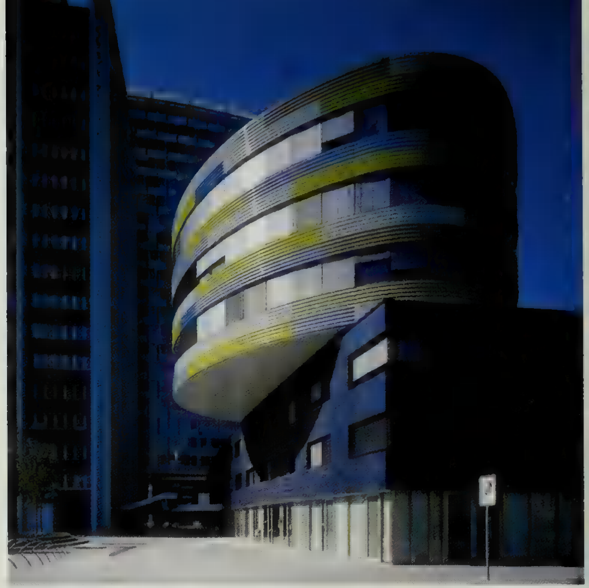


THIRD FLOOR



GROUND FLOOR

1. *Plaza*
2. *Lobby*
3. *Elevators, existing building*
4. *Elevators, new building*
5. *Retail*
6. *New offices*
7. *Existing offices*
8. *Patterned roof below*



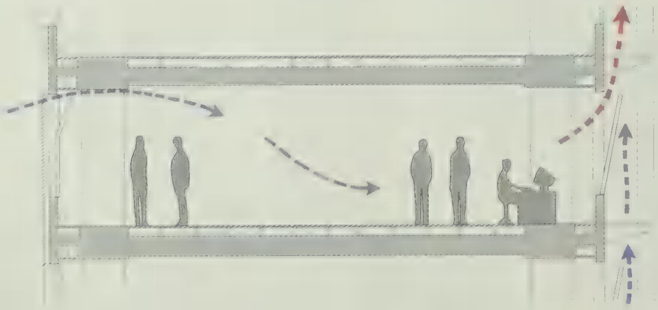
- Radiant heating and cooling. The underside of the floor slab is exposed as a finished ceiling, which absorbs excess heat generated during the day. The heat is flushed by pumping air through hollows in the slab at night. Or it can be "saved" and act as a morning preheat. Conventional radiators offer supplemental heat if needed.

Commentary

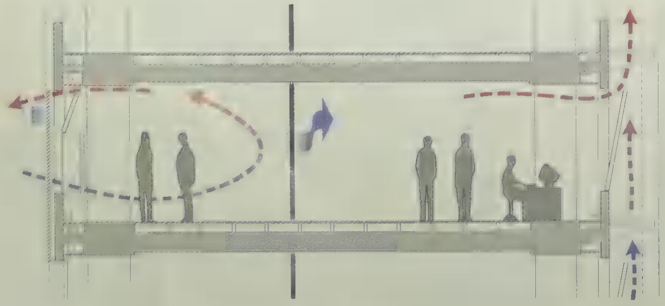
Although GSW could not be considered an inexpensive building, the architects added many amenities while spending carefully. Yes, there's a great deal of perimeter wall, and the shading and ventilation scheme comes at a high first cost. But the architects saved the company money by not demolishing the existing building (savings in temporary-quarters rent as well as in building replacement). You can also measure "payback" in lowered absenteeism and retention of valued staff from the deep pleasure people take in the daylight, views, and ability to control their own environment, but the true value may be incalculable.

Technically innovative buildings rarely come in such stylish packages. The painterly use of color and the ever-changing play of light off the layered-glass wall makes this structure come alive in a way that people once only dreamed of. ■

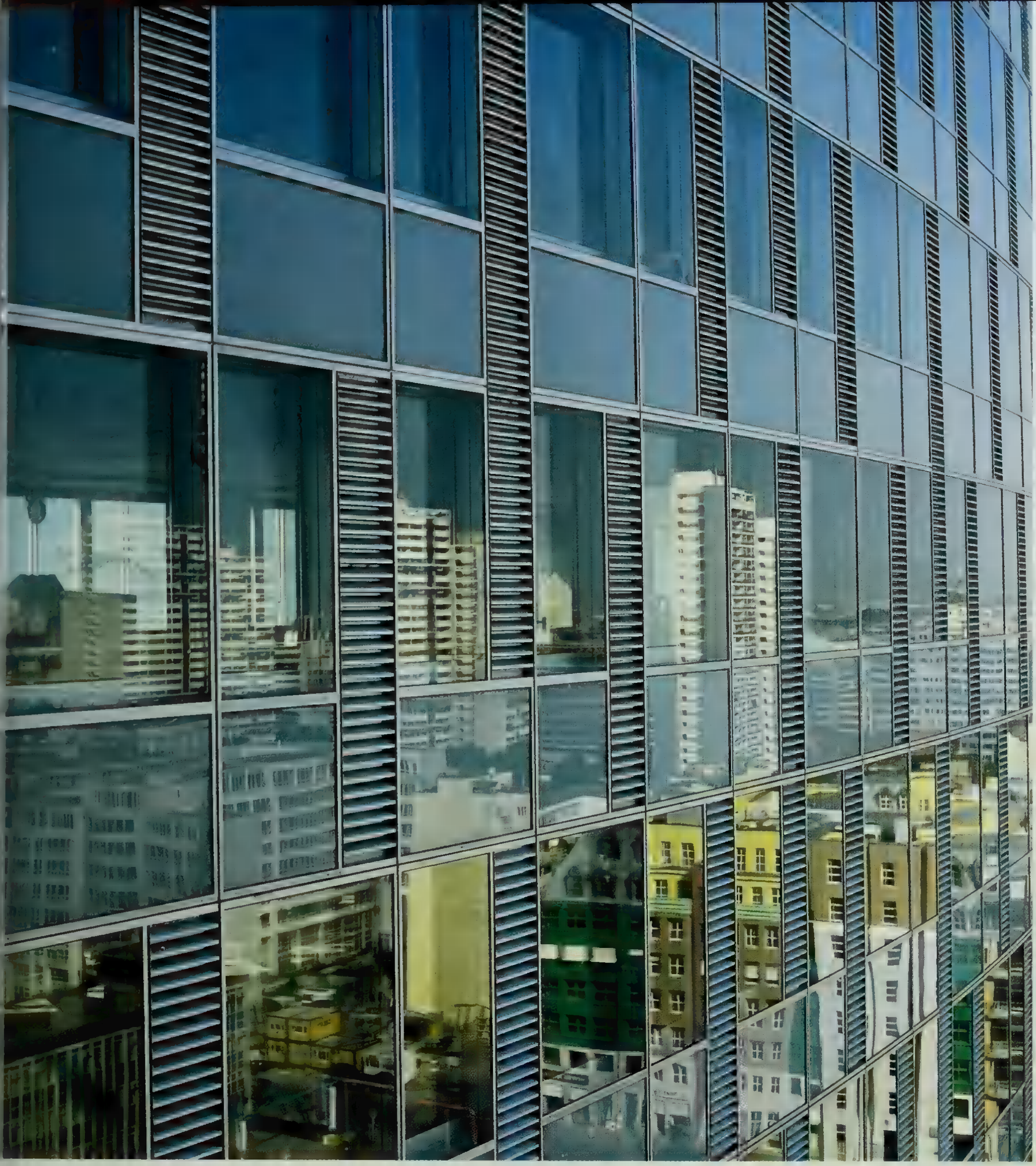
The diagrams show only one of many natural-ventilation modes. The double-wall facade acts as a chimney, drawing warm air upward, which in turn spurs entry of cooler air from the opposite side. Sound-baffled vents permit airflow through office partitions.



CROSS VENTILATION · OPEN PLAN



CROSS VENTILATION · PARTITIONED OFFICE



Louvers on the eastern, single-layer facade (left) admit breezes, usually to a corridor (bottom left). Alternatively, floors can be left entirely open (below, prior to move-in), giving users light and views from two sides.

475 Brannan Street
San Francisco, California

4

PFAU ARCHITECTS CATERS TO THE "HIPNESS FACTOR" AT DOT-COM COMPANIES THROUGH A HYBRID OF NEW AND EXISTING CONSTRUCTION.

By James S. Russell, AIA

Architect: *Pfau Architects—Peter Pfau, Dwight Long, Chris Tymoff, Brooks Dunn, Kit Gibbs, Casper Mork-Ulnes, Chris Schabacker, Mallory Shure, Keri Spiller, Michael Young, Sherin Yuan*
Engineer: *Steven Tipping & Associates (structural); Mazetti & Associates (mechanical, plumbing); F. W. Associates (electrical)*
Consultants: *Marta Fry Landscape Architects; Ferrari/Moe (waterproofing)*
General Contractor: *Swinerton & Walberg*

Size: *320,000 square feet*
Cost: *$24 million*
Completion date: *2000*

Sources
Built-up roofing: *Malarkey Roofing Co.*
Aluminum Windows: *All Weather*
Fire-control doors, security grilles: *Cornell Iron Works*
Locksets: *Schlage*
Resilient flooring: *Forbo*
Interior ambient lighting: *Eliptipar, Capri*
Downlights: *Lithonia*
Exterior lights: *Eliptipar, Columbia, B-K Lighting*
Elevators: *Mitsubishi*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* ***www.architecturalrecord.com***

Program

It is not glib to say that 475 Brannan Street has no program. Dot-com and multimedia tenants often sign on for a space based on its possibilities. Only rarely can such tenants accurately predict how much space they'll need by the time they move in. On a recent walk-through, architect Peter Pfau pointed to the still-empty space of an early tenant. The company had been sold twice since lease signing and was in the process of subletting part of its space.

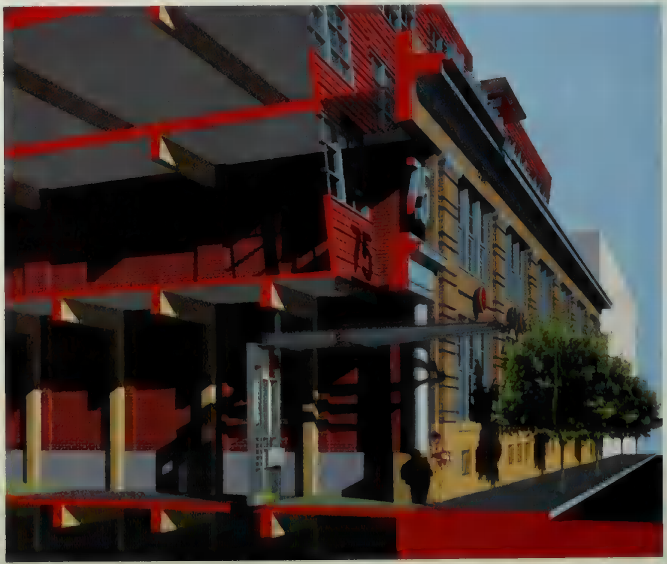
Even though potential tenants may not know what they will do with a space, some aspects are a given: a regularly laid-out floor plate that offers a great deal of flexibility in configuration, ample power and telecommunication capacity, good light or views. The 1906 Baker and Hamilton warehouse building appealed for its well-detailed, substantial masonry construction and its relatively high-ceilinged, post-and-beam internal structure.

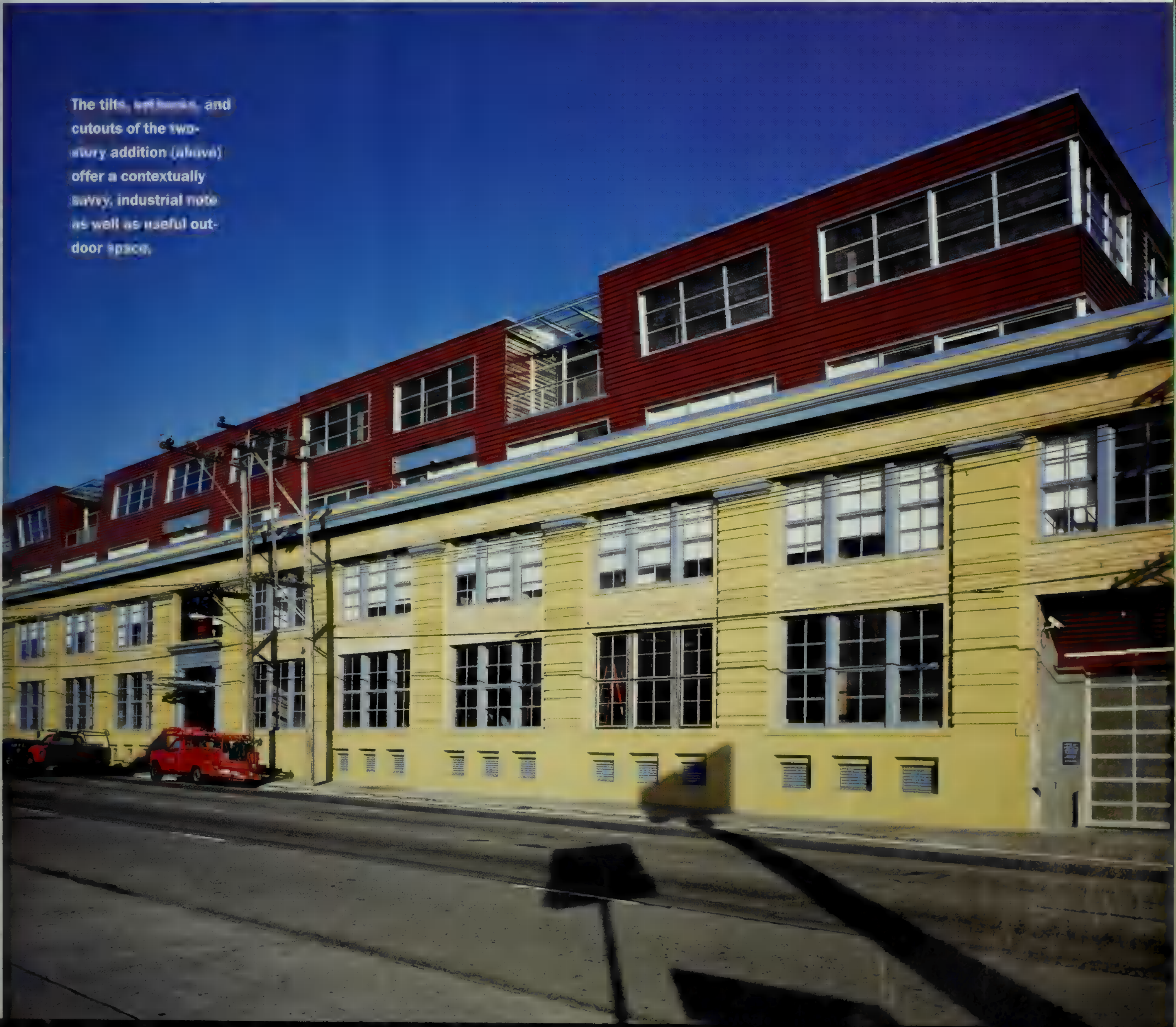
Solution

The building at 475 Brannan Street is the largest and most complex of several projects Pfau Architects has done with SKS Development—itself a youthful firm targeting start-up tenants. Because the building had been built as a warehouse, it had adequate structural capacity for a lightweight addition. But first the building was seismically reinforced with what is called a propped shear wall. Six of these recently developed devices were used. They consist of reinforced concrete piers bridged by a diagonal brace of full building height that is rigidly attached to each floor. (Substantial as these devices are, they are less costly and use less space than the conventional myriad braces and shear walls.)

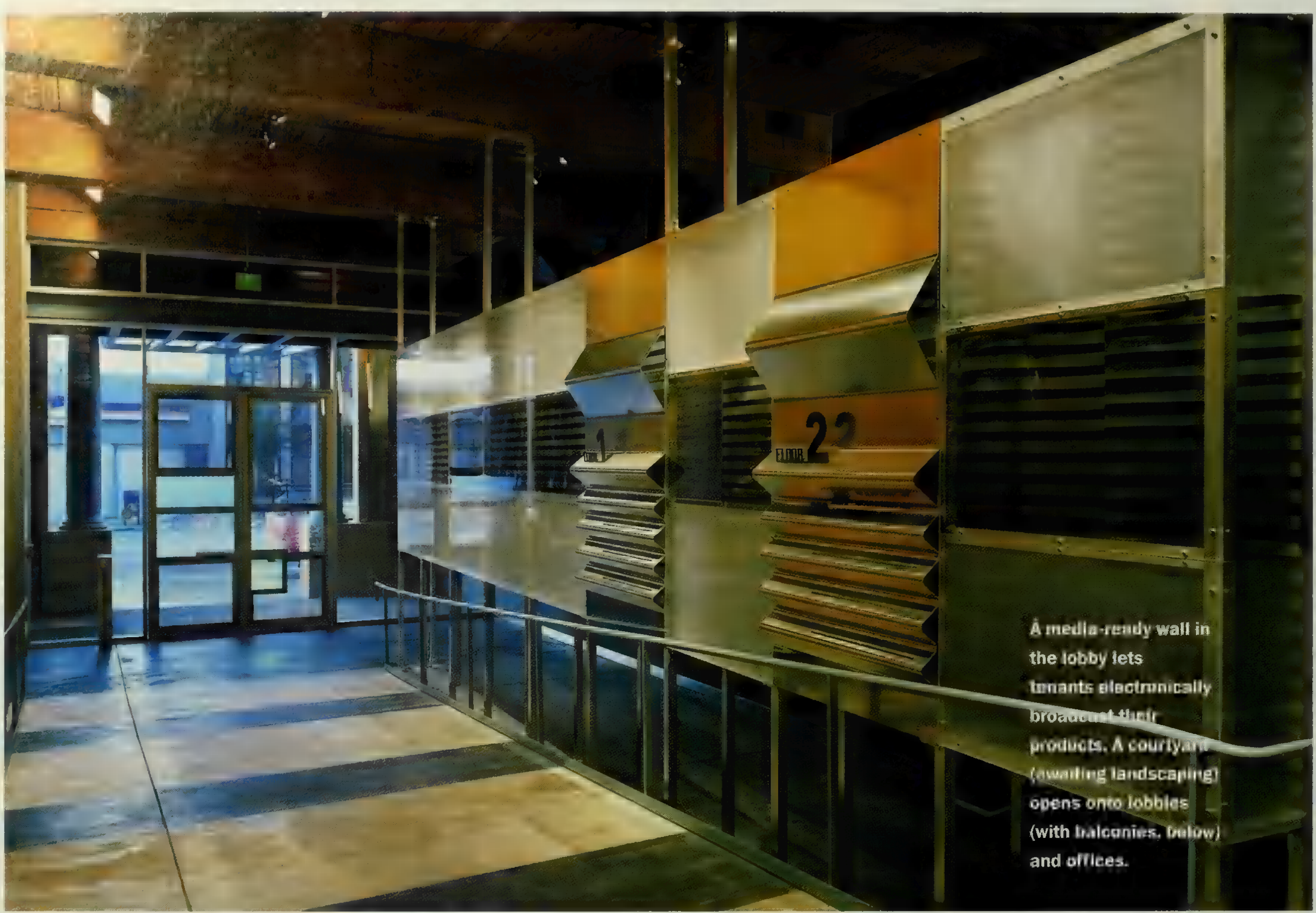
What appears to be a line of freight cars clattering along the roof is actually a two-story addition. The stories were framed in heavy timber and light-gauge metal; the lightness of the construction made it possible to retain the framing of the existing building—enormous, irreplaceable wood columns and beams. The red-painted metal cladding tilts in and out to break down the block-long length of the facade. The architects also added new utilities and exit stairs, including a stair that lands unenclosed in the lobby, thanks to an inventive reconfiguration of standard fire separations (requiring intensive building-official consultation).

The architects cut a new courtyard into the building, bringing daylight to almost the entire deep floor; the courtyard opens off the elevator lobbies, thus allowing everyone to share this precious oasis in the city's concrete desert. The long lobby from the street is lined with a "multimedia" wall that offers live-broadcast capability as it directs visitors to tenants. Underground, parked cars tuck in between old columns.





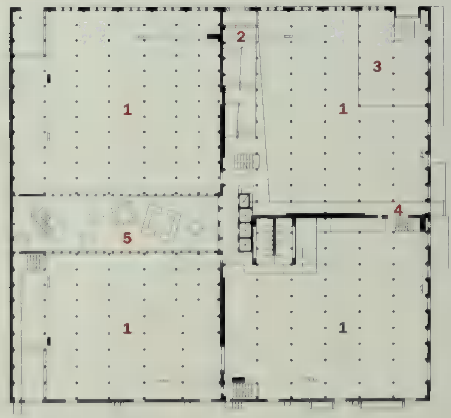
The tilts, setbacks, and cutouts of the two-story addition (above) offer a contextually savvy, industrial note as well as useful outdoor space.



A media-ready wall in the lobby lets tenants electronically broadcast their products. A courtyard (awaiting landscaping) opens onto lobbies (with balconies, below) and offices.

Commentary

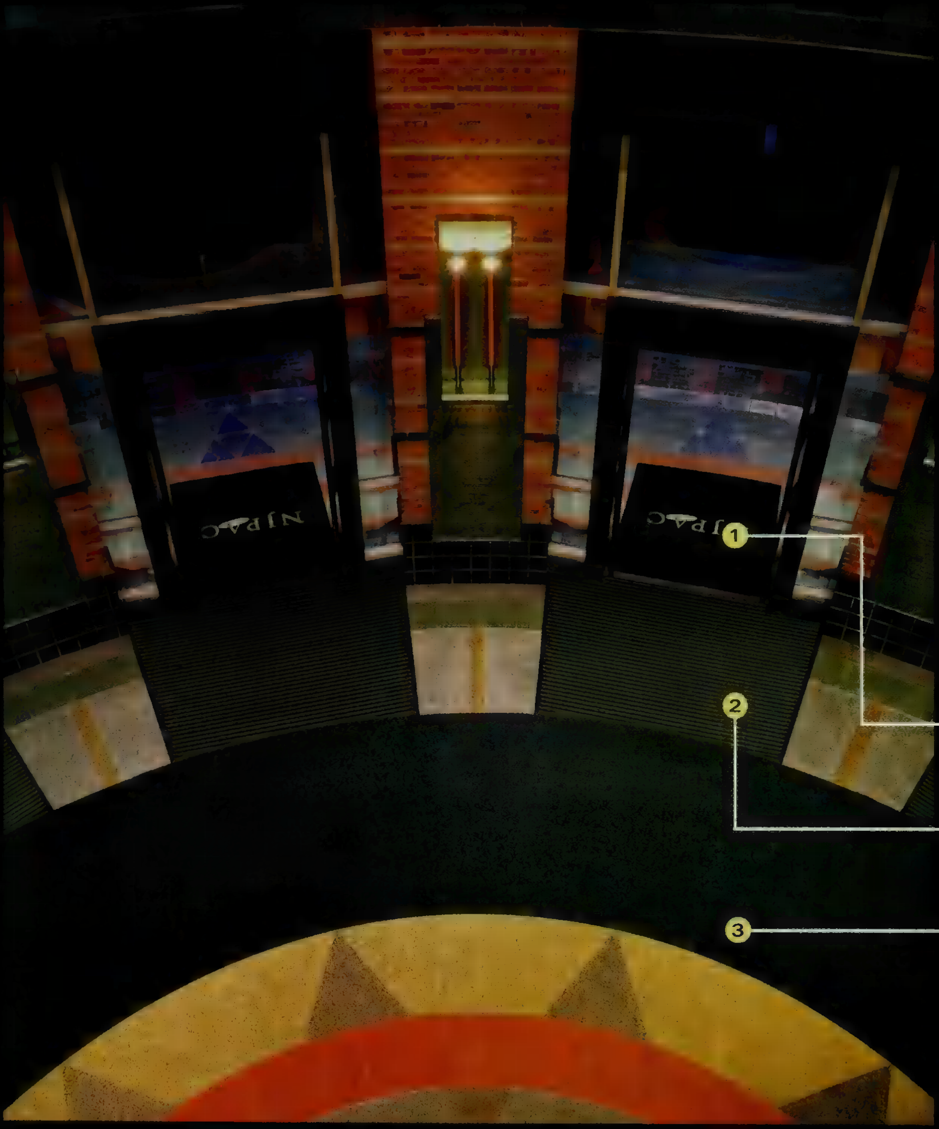
In only a couple of years, the Internet start-up client has gone from being a blip on the office-construction radar screen to a major force in office buildings and interiors. With their art- and design-savvy workforces, they are changing the rules of spec development. Pfau Architects' 475 Brannan deserves kudos for doing a lot with a little—and getting built at high speed. Yet it already portends troubling trends. The "loft look" threatens to become an Internet start-up cliche. Also, developers and tenants in this market will only rarely commission new construction of distinction, while lavishing enormous attention upon ordinary older buildings. Architects must respect the difficult real-estate constraints under which such companies operate, but talented architects are not often enough asked to do more than the loft *du jour*. ■



GROUND FLOOR

1. *Tenant*
2. *Lobby*
3. *Retail*
4. *Delivery*
5. *Courtyard*

Introducing the first high performance, fully integrated Entrance Flooring System.



Research suggests that entrance flooring should span 18 feet to effectively stop dirt and water from entering your building. However, most buildings' entrance mats are inadequate so maintenance people must compensate with ugly "throw-down" mats.

C/S designed an attractive, integrated system that provides full protection against tracked-in dirt and water.

Zone 1: Scrapes off severe dirt/water before it enters.

Zone 2: Traps and hides secondary dirt in its grid.

Zone 3: Collects any dirt/water missed in Zones 1 & 2.

New C/S Entrance Flooring Systems

1•888•621•3344 • www.c-sgroup.com

See us at the CSI Convention - Booth #'s 3554/3556/3558

CIRCLE 33 ON INQUIRY CARD

Company 1138 • Algoma Hardwoods Inc 2741/2743/2745/2747 • Alpro Acoustics 2856 • Al
American Specialties Inc 1435 • American Warming & Ventilating 1645/1647 • American Wick Drain Corp 24
Windows, Inc. 543 • Aqua Bath 2523 • Aqualin Inc. 665 • Architectural Precast Assn. 1317/1319 • Arde
20/2322 • AVCON 715 • Avonite 3023 • Azrock Commercial/Domco Inc. 2034/2036 • Babcock-Davis Hat
Bilco, Inc. 1006 • Bobrick Washroom Equipment Inc 2435 • Bostik Inc. 063 • Bradley Corp 821 • BRP
64 • Celotex Corporation (The) 1415 • CENTRIA 2009 • Ceramic Tool Company 1336 • CertainTeed Corpo
orporation 1901/1903 • Claridge Products & Equipment 1543/1545 • Cline Aluminum Doors Inc 1635 • Clo
005/1007 • Concord Industries, Inc. 2547 • Connor Sports Flooring Corp. 1754 • Consolidated Systems In
857 • Crane Revolving Door Co., Inc. 635 • Custom Curb Inc 2634/2636 • DaLite Screen Co Inc 1905/1907
Draper Inc. 1718 • Dura Art Stone 2310 • Duron Paints & Wallcoverings 1164 • DUR-O-WAL, Inc. 2004 •
Fire Trak Corp. 1935 • Firestone Building Products 2153 • Follansbee Steel 1327 • Fortifiber Corporation 2
709 • GenFlex Roofing Systems 1421/1423 • Georgia-Pacific Corporation 1724/1726/1728 • Grace Const
014/2016 • Hafele America Co 2835 • Hager Companies 1603/1605/1607 • Halfen Anchoring Systems 810
orp. 2935 • Hilti, Inc. 0963/0965 • Hohmann & Barnard Inc 1039/1041 • Hollman, Inc. 2516/2518 • Ho-
nican Corp. Unican Lock 2737/2739 • illbruck Architectural Product 2722 • illbruck Sealant Systems, Inc. 2

One week a year, all of these companies come together in one plac

all Protection Sys 1026 • Island Reflections 2314 • Isolatek International 1341/1343 • Jacknob Corp. 2
orporation 818 • Karp Associates Inc 1035/1037 • Keystone Retaining Wall System 2721 • Kinetics Noise
tair, Inc. 0758/0760 • Larsen's Manufacturing Co 2114/2116 • Laticrete International Inc 2241 • Lee Rov
aple Flooring Mfgrs. Assoc 717 • Marathon Roofing Products, Inc 1140/1142 • Marlite 2814/2816 • Mast
354/1356 • McKeon Rolling Steel Door Co. 501 • Merchant & Evans Inc 2860 • Metal-Era Inc 2761 • Me
804 • National Guard Products, Inc. 1309/1311 • National Wheel-O-Vator Inc. 2507 • Neenah Foundry Com
smose Wood Preserving, Inc. 2240 • Otis Elevator Company 901 • Overhead Door Corporation 1145 • Ow
artition Systems, Inc. 2048 • Pawling Corp. 2021 • Pacora Corporation 2307/2309 • Peerless Industries, In
ord 1442/1444 • Planter Technology, Inc. 1237 • Plastic Components Inc 2015/2017 • Plumberex Specialt
nc. 2815 • Precision Ladders, LLC 0582/0584 • PROSOCO, Inc. 0814/0816 • Pyrok Inc. 2952 • Raven Ind
Sandell Manufacturing Co.,Inc. 1104 • Santana Products, Inc. 2219/2221/2223/2225 • Sarnafil Inc 2344
Senergy 1852/1854 • Sheffield Plastics, Inc. 935 • Silikal Resin Systems 1338 • Simpson Strong-Tie Co.,In
echnologies, Inc. 2027 • Springs Window Fashions Div. 1511 • Stevens Roofing Systems 2620/2622 • Sto C
nc 1208 • Tek-Rail 3021 • Tennant 2245 • Tepromark International Inc 721 • Textured Coatings of Ameri
roudfoot Co., Inc. 2711 • The Sharon Companies Ltd. 1027/1029 • Timely Industries 2828 • TRACO 3057/
ubber Products Div. 1022 • Versa-Lok Retaining Wall Sys 1648 • Vincent Metal Goods 1154 • VT Industries,
lashaus Division 0826/0828 • Williams Products Inc 2503/2505 • Wilson Partitions 0702/0704 • Woodfold-Marc

DIRECTORY
CATALOG FILES
CD
SWEETS.COM
PRODUCT NEW

sweets.com is part of the **construction.com** network

Sweet's Group
McGraw-Hill Construction Information Group

CIRCLE 115 ON INQUIRY CARD

A Division of The **McGraw-Hill** *Companies*

American Flagpoles Inc 2562 • American Hydrotech 1146/114
8 • Alusuisse Composites, Inc. 3544/3546 • American Flagpoles Inc 2562 • Anchor Wall Systems 1539/1541 • Anderse
nce Products 0739/0741 • Ampco Products, Inc. 1347/1349 • Anchor Wall Systems 1539/1541 • Atlas Roofing Corporatio
cialties 1608/1610 • Art in Bronze/OMC 2729 • ATAS International, Inc. 1255 • Besam Automated Entrance 2818/282
2543 • Bayer Corporation 1921 • Benjamin Moore & Company 947 • Carlisle SynTec Incorporated 1221 • CavClea
57 • Capaul Corporation 508 • Capitol Partitions Inc 1014 • Chemical Specialties Inc. 1919 • Chicago Metalli
DO Building Materials 2461 • Chase Doors 2509/2511 • Comtec Industries 1620/1622 • Concord Elevator Inc
ts, Inc. 2335 • Cold Spring Granite Co. 2624/2626 • Coronis Building Systems Inc 1601 • CPFilms Inc
Sales, Inc. 1409 • Cornell Iron Works, Inc. 1623/1625 • Dow Chemical Company 809 • Dow Corning Corporation 121
2008/2010 • Dorma Door Controls, Inc. 635 • Epic Metals Corporation 1125 • Excel Dryer, Inc. 943 • Fabral 256
5/0737 • Ellison Bronze 2334/2336 • GAF Materials Corporation 2661 • GE Silicones 941 • General Partitions Mfg Cor
Reglet Corporation 1520 • Greenheck 2039/2041/2043 • Hacker Industries, Inc. 553 • Hadrian Manufacturing Inc
736/1738/1740 • Hayn Enterprises, LLC 2564 • Heckmann Building Products Inc 2527 • Hickso
ectural Products 1640/1642 • Hunter Douglas Architectural 2542/2544 • ICI Devoe Coatings 535 • Ilc
Products 848 • Hufcor Inc 927 • Innovative Metals Company, Inc 1045 • Intertec Div. of Doralco 921 • IPC Door
ouvers, Inc. 1009/1011

he rest of the year, they're in Sweet's.

Hardie Building Products 2921 • Johns Manville 625 • Julius Blum & Company Inc • Kane Manufacturin
• Kuala Corporation 804 • Koroseal Wall Protection Sys. 1063/1065 • Kreonite Inc 1122/1124 • Lapeyr
00 • Living Doors Inc. 3614 • Major Industries, Inc. 2001 • Mannix 1329 • Mapes Industries, Inc. 2838
3 • Maxcess Technologies, Inc. 1535/1537 • Maxxon Corp. 2141/2143 • MBCI 815 • McElroy Metal, Inc
37 • Modernfold Inc 2022/2024 • Morin Corp. 515 • Mortar Net USA, Ltd. 515 • Nana Wall Systems, Inc
rd 700 • Nystrom Building Products 1153 • Oldcastle 1643/1645 • Omega Industrial Products, Inc 1129
• Pacific Polymers International 2055 • Pactiv Building Products 2608/2610 • Parex, Incorporated 1815
Mfg. Co. 1353/1355 • Penco Products, Inc. 802 • Petersen Aluminum Corp 1059 • Pilkington Libbey-Owen
Pohl, Inc. of America 1420 • Portals Plus, Inc. 2035 • Potter-Roemer 2355/2357/2359 • Powers Fastener
510 • Reese Enterprises Inc 605 • Roof Products, Inc. 2037 • Rubbermaid Commercial Products 0820/082
s L.P. 3017 • Schott Corporation 3610/3612 • Securitech Group Inc 1953 • Select Products Limited 171
Inc. 2726/2728 • Sitecraft, Inc. 919 • Slip-Not Safety Flooring Div. 2006 • Solomon Colors 1646 • Specifie
Sun Architectural Products 659 • Symons Corporation 2138/2140 • TEC Specialty Products 2311 • Tectu
olite Company 1501/1503 • The Bilco Company 1224/1226/1228 • The Pate Company 2640/2642 • Th
orth America, Ltd. 1008/1010 • Tubelite Inc. 1262/1264 • Tubular Specialties Mfg Inc 0608/0610 • Tufle
u Tile, Inc. 1340/1342 • Wausau Window and Wall Systems 1453 • Wayne Dalton Corporation 1441 • Weck
World Dryer 2529 • YKK AP America Inc 1260 • York Manufacturing Inc 1555/1557 • Zero International Inc. 174

**sit Sweet's at
ooth #2315, and these
uilding Products
anufacturers at
SI 2000. Register at
weets.com during CSI
000 and get a free gift!**

Sweet's
The Construction Marketplace℠

The Most Manufacturers.
The Most Buyers.
The Most Opportunity.

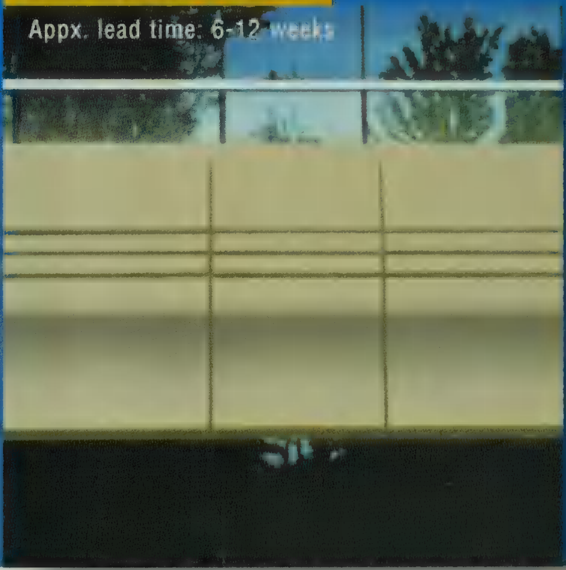
SR080

NOW A DELIVERY DIMENSION THAT PRECAST CAN'T OFFER

Precast

Appx. lead time: 6-12 months

Dimension Series Panels


Appx. lead time: 6-12 weeks

New. Formawall® Dimension Series® architectural metal panels.

Short lead times that make precast even more replaceable. When your construction schedule is tight, new CENTRIA Formawall Dimension Series Factory Foamed architectural metal panels offer another benefit: they're available right now! In fact, with Dimension Series panels, lead times for your designs are typically much shorter than for architectural precast or other competitive materials. And Dimension Series panels give you far more creative flexibility to make your designs much more interesting and colorful. Don't cast your plans in concrete, start adding a new Dimension to your design. Contact CENTRIA today for a personal presentation. **Quit stonewalling. You've settled for precast long enough.**

Dimension Series Product for the New Millennium As selected by Architectural Products

CENTRIA

CENTRIA Architectural Systems

1.800.752.0549

www.centria.com

CIRCLE 28 ON INQUIRY CARD

Creating Safe and Appealing Public Stairs

ARCHITECTS AGREE THAT STAIRS ARE AMONG THE MOST CHALLENGING BUILDING COMPONENTS TO DESIGN, AND EXTERIOR PUBLIC STAIRS ARE MOST COMPLEX OF ALL.

By Wendy Talarico and Barbara A. Nadel, FAIA

By 1993, the once monumental stairs that lead from downtown Troy, N.Y., to Renssalear Polytechnic Institute (RPI) looked like some kind of ancient ruin. The bricks that once supported the treads showed the effects of countless freeze/thaw cycles, and the bluestone treads had slipped from their beds, a few of them cracked and spalled. Built in 1907, the flight of 163 steps had problems from the start, thanks to the soft brick used for the leveling beds. Regular maintenance kept problems in check until after World War II, when labor became scarce. Finally the stairs were abandoned, a cascade of rubble in the midst of the city.

Ongoing maintenance for stairs like those in Troy is just one of many issues to consider when designing public exterior stairs. Other dilemmas: Will the stairs hold up under weather extremes? Are they safe? Do they complement the building or surroundings to which they lead? Where should the handrails go? "In no other part of the building, except perhaps the facade, is it more important to weigh the upkeep and long-term benefits of what you're designing against construction costs and budget limitations," says Jonathan Woodman, AIA, of Woodman Associates Architects in Newburyport, Mass. Stairs take a beating from weather, traffic, and even skateboarders and rollerbladers. Yet designing them to last and ensuring good maintenance can protect the architect and building owner from being sued.

A federal grant came to the rescue of the stairs in Troy. Architecture Plus, also in Troy, was retained by city and RPI officials to rebuild the stairs. The firm started by shoring up the masonry foundation and replacing the original brick setting bed with concrete. Underdrains

Barbara A. Nadel, FAIA, is a freelance writer specializing in technology-related subjects. She is the 2001 AIA national vice president.

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 176 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

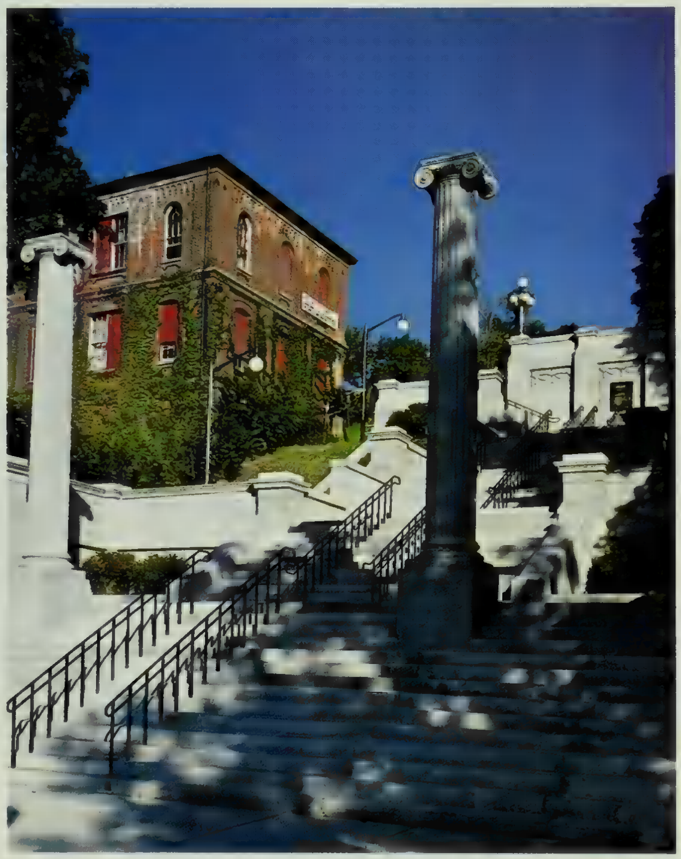
1. Describe what factors are involved in selecting materials for exterior stairs.

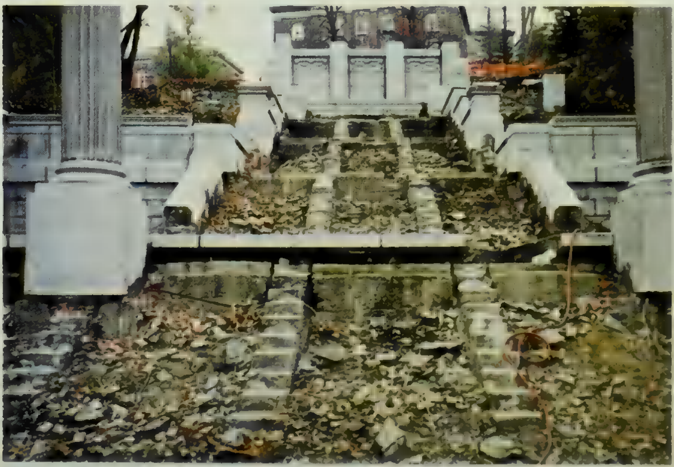
2. List the code requirements for exterior stair design.

3. Discuss stair design in historic surroundings

4. List the common cause of lawsuits related to stair design.

WWW *For this and more continuing education go to:* **www.architecturalrecord.com**





In Troy, N.Y., a 93-year-old stairway leading from the town center to RPI was restored (top) by Architecture Plus after years of neglect (bottom).

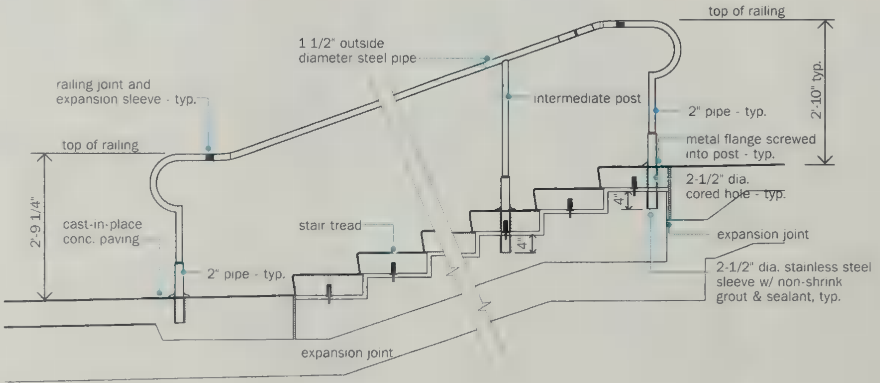
CASE STUDY

Project: *Capital City Landing in White River State Park*
Architect: *Wallace Roberts & Todd, Philadelphia; Sasaki Associates, Watertown, Mass. (preliminary design)*

Part of an ongoing upgrade of the downtown Indianapolis park and waterway system, the 25-acre Capital City Landing project includes a number of stair locations that link the walkways, bridges, and plazas lining the Central Canal and the White River. The project connects various sites within the downtown, including the zoo, a university, and government office buildings. It is also a favorite jogging route and a good place for workers and students to retreat at noon for an outdoor lunch.

Each stairway consists of granite pieces set on a concrete substrate. The locally quarried granite has a thermal or flame finish to minimize slipperiness. The roughened finish is accomplished by flaming the material with a torch after it is sawed in the quarry.

The steps have 14-inch treads and 6-inch risers, "comfortable proportions that match the natural range of human movement," says


top of railing
1 1/2" outside diameter steel pipe
railing joint and expansion sleeve - typ.
intermediate post
2" pipe - typ.
2'-10" typ.
metal flange screwed into post - typ.
top of railing
2-1/2" dia. cored hole - typ.
4"
2'-9 1/4"
cast-in-place conc. paving
stair tread
4"
expansion joint
2" pipe - typ.
2-1/2" dia. stainless steel sleeve w/ non-shrink grout & sealant, typ.
expansion joint

SECTION

conduct water away from the substrate to help prevent water damage. Many of the old tread stones were reused, though getting them perfectly square was impossible. "We had to do some false work to conceal the imperfections," says Francis Murdock Pitts, AIA, principal in charge at Architecture Plus. "But using the old stones retained the historic character of the stairs and saved money."

The project was completed in the autumn of 1999 and has become a gathering place for local residents and RPI students, who study, sunbathe, and socialize on the steps. As a case study, the stairs in Troy prove the importance of durable materials and proper maintenance.

What the codes say

The three model codes and their amalgamation, the International Building Code, have slightly different design requirements for public stairs. Codes also vary according to occupancy and building type; health-care facilities have different requirements than apartment buildings or stairs located as part of a public plaza.

Some rules relating to public stairs and commercial structures are consistent throughout all codes, however. Exterior stairs must be stable, slip resistant, and noncombustible. Open risers are forbidden and solid treads are required. Stairs should be protected from weather, specifically snow and ice, though there are many ways to do this that don't require a roof or canopy, says Kim Paarlberg, staff architect for Building Officials Code Administrators International (BOCA). For example, simply placing them out of the path of winter winds may be enough. Proof of a reliable snow-removal method, such as heated treads or a dedicated maintenance staff, is also acceptable. "The code official must be convinced that it is possible to egress in an emergency situation, regardless of the weather," she adds.

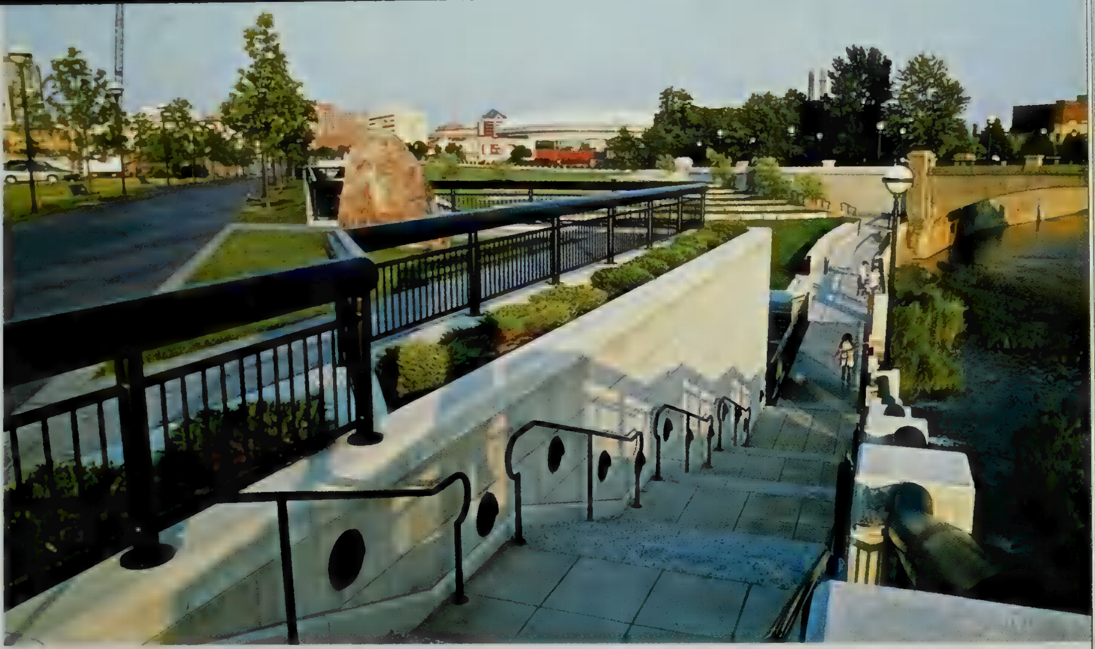
The width of the stairs, usually recommended to be a minimum of 44 inches, may also be dictated by code. This depends on the use of the building and the number of occupants.

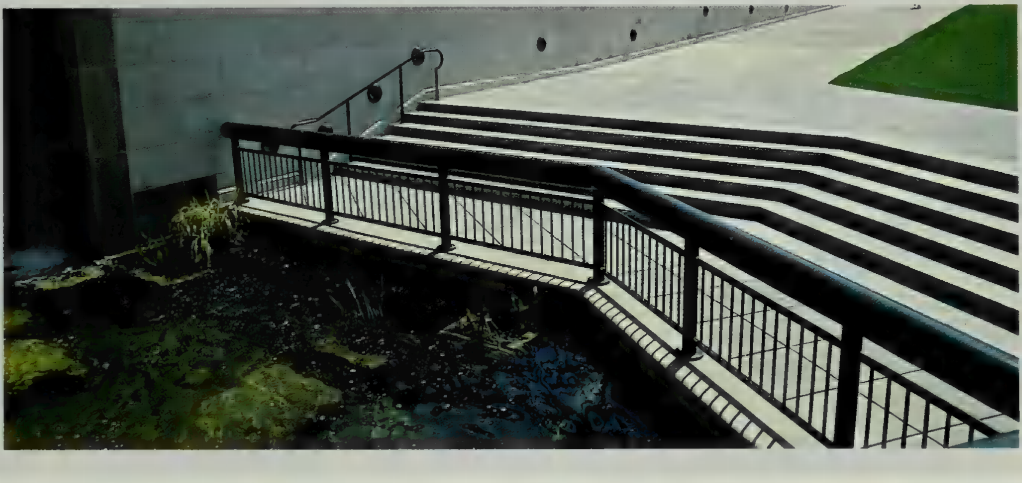
The Americans with Disabilities Act (ADA) guidelines say continuous handrails, necessary anytime there are more than two treads, must flank the project manager Hank Bishop of Wallace Roberts & Todd. (The firm also worked on Baltimore's Inner Harbor, a series of parks and plazas that capitalizes on the waterfront.)

A set of amphitheater steps (with intermediate stairs for access) surrounds the turning basin, where tour boats will turn around. These use complementary proportions: risers are 18 inches and treads 42 inches. "People can sit on the steps with ample room for others to sit or pass behind them," Bishop adds.

The handrails are steel that's powder-coated in dark brown. The electrostatic powder-coating paint treatment is the most durable solution when stainless steel is not an option, he says. "The coating costs more than steel, but it's worth it."

The granite is similarly durable, though Bishop notes that the crisp edges of the nosing are becoming shiny after repeated scraping by rollerblades. "You can't do outdoor stairs these days without considering rollerbladers," he says.

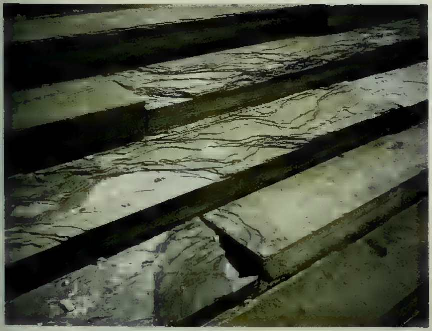




The now-defunct Central Canal serves as the focus of the Capital City Landing project (left). Public stairs, scattered throughout the 25-acre park system (right), consist of granite risers and treads. The stone was chosen for its durability.

shortest route to a building's main entry. In this sense, the rails provide some direction to those who have mobility impairments or who lack the stamina to get to the door in a more roundabout way. They also act as a guide for the visually impaired. Twelve-inch-minimum railing extensions at the top and bottom (plus the width of the bottom tread) of the run signal the beginning and end of the steps.

There are also specific criteria that describe shape and height limitations for the gripping surface. The outside diameter of the rail must have a radius of 1½ inches. A four- or six-inch spacing is required on the guardrail, "so that children cannot stick their heads through and possibly fall to their death if the stair is high enough above ground," Paarlberg says. An additional rail at a lower height is recommended by the ADA for buildings widely used by children.



Problems with stone steps include cracking and spalling, caused by water that infiltrates the mortar joints and freezes, lifting the stone. Where possible, eliminating mortar joints by using a single stone in the tread helps.

Historic buildings pose special code concerns, especially when it comes to handrails. "Most are out of compliance due to their size and gripping surface—if there are railings at all," says John G. Waite, FAIA, of Albany, N.Y. Following codes while renovating old stairs may alter the character of the building, however. In New York, for example, codes say handrails must be located at four-foot intervals across broad flights of stairs. All those handrails may alter the character of the stairs significantly. "It's essential that architects work with code officials to make some compromises for old buildings," Waite says. "That doesn't mean making them unsafe or inaccessible; just more appropriate."

Materials matter

What the stairs are made of should be consistent with the construction of the building or surrounding structures. "Monumental buildings should have monumental stairs," says Steven Winkel, FAIA, of Field Paoli Architects in San Francisco. "Stone buildings should have matching stone stairs when possible."

CASE STUDY

Project: *Grace Episcopal Cathedral, San Francisco*
Architect: *Turnbull, Griffin & Haesloop Architects*

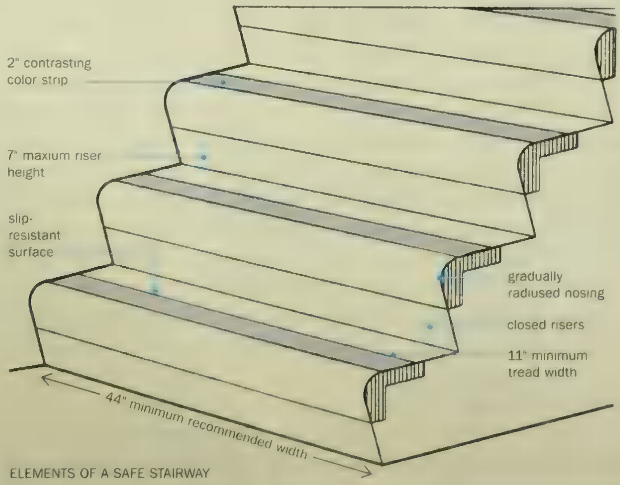
As aesthetic elements, stairs can serve many purposes. At this cathedral, which sits atop Nob Hill overlooking San Francisco, the renovated stairs became a way of connecting the structure, both physically and metaphorically, to the rest of the city.

According to Mary Griffin, AIA, the cathedral was formerly accessed through a set of stairs tucked behind the chapter house. "That left little space to gather after services or to hold events. And it effectively blocked out the city, isolating the cathedral." The solution was to tear down the chapter house and create a stair that is, Griffin says, "a grand gesture and a generous statement."

Both the cathedral, built in the early 1900s, and the new stair are reinforced concrete. This was used on the stairs to help resist seismic forces. "There are expansion and contraction seams all over that will take up some of the stress also," says Eric Haesloop, AIA. "If the cathedral were on base isolators, the seismic movement would be taken up with a moat at the base of the stair."

The architects used 6-inch risers and 12-inch treads—a little steep for an exterior stair, Haesloop says. But these dimensions allowed room for multiple landings. Other complications included finding a way to tie the stairs into the sidewalks and courtyards at various elevations on the sides of the building. "Coping with topography is always a problem when designing exterior stairs in San Francisco," Haesloop says.

The renovated stairs of the almost 100-year-old Grace Episcopal Cathedral serve as a place for processionals (left). Both the stairs and the church are concrete (right).


2" contrasting color strip
7" maxium riser height
slip-resistant surface
gradually radiused nosing
closed risers
11" minimum tread width
44" minimum recommended width

ELEMENTS OF A SAFE STAIRWAY

When it comes to stairs, safety is first priority

Making exterior stairs safe not only benefits the building owners and occupants, it helps avoid liability issues if someone is injured. Some of the most common hazards:

- The concrete atop metal-framed stairs wears away or is damaged by severe weather, exposing metal edges that catch on the front of the shoe.
- Risers are not uniform in height, particularly at the top or bottom of the run. This breaks the natural, biomechanical rhythm of people going up and down the steps and they are more likely to trip.
- Stairs are poorly lit. Good lighting makes safer and better-looking stairs, though it is often spotty and uneven. Placing lights at each tread is a good, thorough approach.
- Stairs do not comply with ADA requirements, such as handrail size or position. Says Field Paoli Architects' Winkel: "Handrails and stairs are a slam dunk for disability advocates to find fault."
- Single steps "are killers," Winkel adds. "It usually has no handrail, the most important cue that the stair is there. Consequently, people don't see the step and fall."
- Stair edges are difficult to see. Some states require that public stairs in all facilities have a two-inch contrasting color strip set back one inch from nosing to make it easier to see the stair edge.

The time, labor and expense of masonry construction can add up to a weighty load. That's why more builders are switching to USG® FIBEROCK™ Brand Abuse-Resistant Panels.

You get all the abuse resistance required for institutional applications, with panels that install over conventional framing. Which also pays off in speedier occupancy and far greater design flexibility.

Take some of the pressure off your next project.

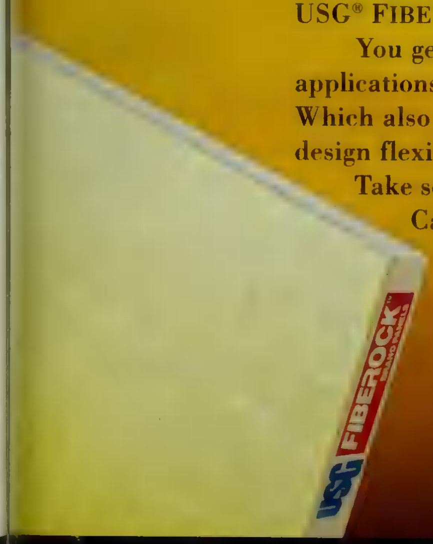
Call 1-800-USG-4YOU today or visit our website:

www.usg.com

USG FIBEROCK™ BRAND
VHI ABUSE-RESISTANT GYPSUM FIBER PANELS

CIRCLE 69 ON INQUIRY CARD

© 1999 United States Gypsum Company



No skateboarders will attempt these stairs, which suffered the effects of weathering and an inadequate substrate. The treads were also not properly angled to prevent ponding.

Material choices depend on aesthetics, cost, maintenance needs, and climate. In northern climates, just about every surface material is problematic. Masonry, concrete, and stone can fall victim to freeze/thaw cycles, like the stairs in Troy. The material used for the substrate contributes to the stairs' overall durability. Concrete is the most common and cost-effective substrate. Steel may be used but is susceptible to corrosion, particularly in climates where chemicals are used for de-icing.

Cast-in-place concrete stairs, perhaps with precast elements, such as treads, are an adequate solution for many buildings (although concrete is also somewhat susceptible to damage from de-icing chemicals). Integrally colored concrete further enhances the aesthetics. Adequate drainage, specifically weep holes, proper slope, drainage channels in some cases, and a gravel bed beneath the concrete, helps avert moisture and subsequent cracking problems. To prevent slips, a coarse finish is used on the tread surface. And with concrete, as well as other tread materials, a slope of about 2 percent or ¼ inch of rise per foot of run is necessary to prevent ponding on the treads.

Different tread and riser materials may be used over

Riser and tread wars: What are the best proportions?

In the beginning, there were ladders. Then there were stairs—albeit uncomfortable ones, as anyone who's climbed the pyramid at Chichen Itza will report. Then came the front and the back stairs; the ones in front were grand and gradual while the back steps were steep and minimal.

Now there are building codes that dictate riser and tread minimums based on accessibility as well as stride and comfort studies. These studies say, in essence, that the tread should be wide enough for the entire foot, and the riser low enough that lifting the foot doesn't require excessive effort and discomfort.

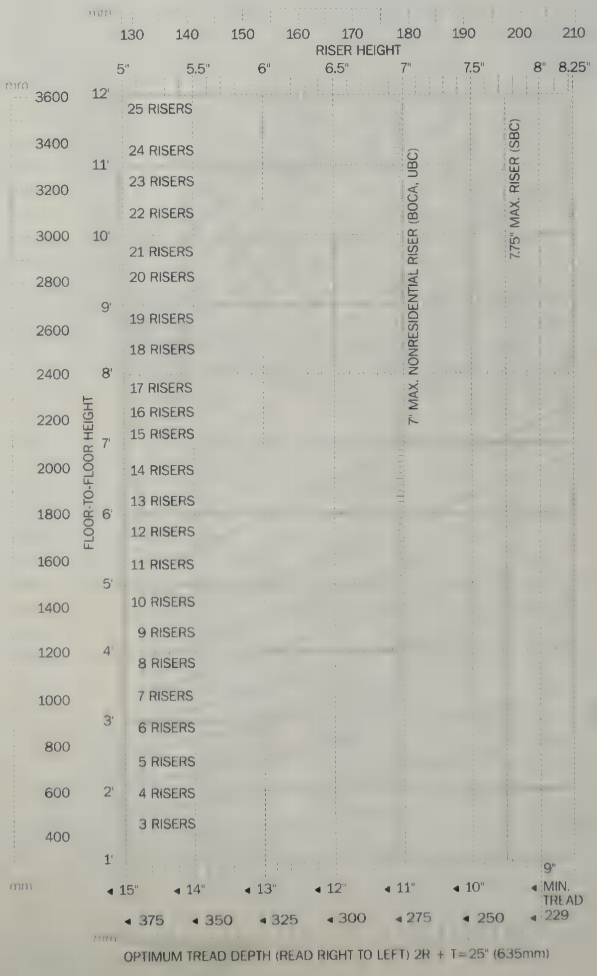
Stair dimensions reflect the various purposes of the stairs. The facades of the U.S. Capitol, surrounded by steps, are a good example. Designed for the most part by architect Benjamin Latrobe, the various staircases have risers and treads of differing proportion. The stairs off the Senate and House wings are intended to be fast and functional—6¾ by 14¼ inches. But the ceremonial stairs on the Pennsylvania Avenue side are 5 by 17¼ inches.

Riser and tread proportions are also a matter of expediency. Inside and out, stairs are customarily designed to the steepest limits in order to use less space and material, says John Waite.

But personal preferences also come into the equation. "Two times the riser-height plus the depth of one tread equals 26 inches. It's what I like to use for a comfortable stride," says Hank Bishop of Wallace Roberts & Todd in Philadelphia.

Others prefer the sum of the tread and riser to be between 17 and 18 inches, with the riser as little over 7 as possible.

The British, French, and Germans have their own set of historic precedents for stair proportions, though the measurements are ultimately about the same as the 7-11 rule dictated by code. In Great Britain, a step is considered proper if the riser is 5½ inches and the tread 12 inches. In Germany and France, smaller proportions are allowed, perhaps due to the fact that buildings in Central Europe are often tightly designed. For instance, a riser of 7½ inches might be paired with a tread of just 9 inches. Small by American standards, but adequate in Germany.



A Toast To A Champagne Anodized Finish That's Color Consistent.

If your taste for Champagne has been dulled by inconsistent color, may we suggest YKK AP Champagne. Our vertical immersion process delivers an anodized finish that's consistent in color from piece to piece, day to day. And our Anodized Plus® surface treatment protects the finish through the years. Just the kind of attention to detail you've come to expect from YKK AP, a world leader in architectural aluminum. Call your YKK AP sales rep, or go to www.ykkap.com.

YKK ap America

©2000 YKK AP America Inc. is a subsidiary of YKK Corporation of America

CIRCLE 75 ON INQUIRY CARD

concrete or steel substrates, though this adds to the cost. Stone is used frequently, or granite, limestone, and high-quality bluestone. Marble is also used, though it is slippery and usually softer than other stones, making it more vulnerable to freeze/thaw cycles. Brownstone is used on historic buildings, though it is more likely to spall than other types of stone.

Stone pieces can be set in mortar, though this requires careful installation to avoid an uneven tread surface and to keep mortar joints small, limiting moisture penetration. Using large stones minimizes the number of joints and means fewer opportunities for water penetration.

In designing new stairs for the Temple Emanu-el in Haverhill, Mass., Woodman used one piece of granite with no joints for each tread. It was expensive, says Woodman, "but these are '100-year steps' that will require minimal maintenance." Also, winter shoveling won't dig into any joints, chipping out the mortar. And the large pieces of stone were easier and faster to install.

Among handrail materials, bronze, brass, and cast iron are ideal for high-quality buildings, such as courthouses. All three are likely to last indefinitely—and are priced accordingly. Steel is common but is more susceptible to corrosion. To prevent rust it should be both galvanized and painted, though the paint is likely to chip and wear with daily use. Epoxy paint is durable but susceptible to ultraviolet degradation. Topping it with a urethane finish coat solves this problem.

Metal railings can react to the salts used to melt ice, which mix with snow and water to form a corrosive solution. Problems are compounded with stone surfaces as the corrosive solution makes stains and can cause the stone to delaminate.

But it's not my fault!

Exterior stairs used to play an important role in the aesthetics of the building. Think of the Capitol, the New York Stock Exchange, the great cathedrals of Europe, and all those Beaux-Arts libraries and museums. "In the old days, buildings were placed high for grandeur of scale," Winkel says. "Now, buildings are pushed close to the ground to minimize grading and ramps. There are just too many legal issues so it's better to avoid them altogether."

While the number of falls that occur on outside stairs is not tracked specifically by insurance companies, about 25 percent of all claims deal with bodily injury, including slip-and-fall cases. According to Architectural Graphic Standards, stairs (indoors and out) result in 4,000 deaths and one million injuries annually.

It is certainly not uncommon for architects to be sued, in turn, by building owners for negligent design, says Michael J. Maloney of Maloney & Company, an insurance brokerage and risk-management firm in Madison, Conn.

Meeting the local building code doesn't absolve the architect of liability. Code provides only a minimum requirement. Architects must look at unique site conditions, as well. For the new stairs at the Temple Emanu-el, Woodman knew he'd have to provide broad landings where people could congregate after services. Otherwise, members of the temple would try to meet on the steps and would be more likely to fall. While landings are normally required after a rise of 12 feet, Woodman recommends them every 5 to 6 feet, depending on floor-to-floor heights.

A good stair maintenance program is the best way to avoid liability problems, says Architecture Plus' Pitts. The owner and maintenance staff should be aware of potential slip and traction problems with maintenance coatings, such as overpolishing or oversalting the stairs. Good maintenance also means the stairs will last longer, look better, and minimize liability issues. ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- Read the article "Creating Safe and Appealing Public Stairs" using the learning objectives provided.
- Complete the questions below, then check your answers [page 246].
- Fill out and submit the AIA/CES education reporting form [page 246] or file the form on ARCHITECTURAL RECORD's Web site at www.architecturalrecord.com to receive one AIA learning unit.

QUESTIONS

1. What do building codes require for exterior stair design?

2. What are the factors in selecting materials for exterior stairs?

3. What are the considerations for handrail materials?

4. What can architects do to avoid lawsuits regarding stairs?

5. What are the considerations for stairs with historic buildings?

n the surface, most slip resistant floorings look the same. But the beauty of superior safety flooring runs deeper. ■ ltro invented safety flooring over fifty years ago, and we've been building beauty into our floors ever since. ■ xceptional slip resistance, long-term durability, underfoot comfort, Easyclean Technology™ — and great color lection. ■ Altro manufactures the world's best sheet vinyl safety flooring and the widest range [including our xtured Altro Marine™ 20 for barefoot areas]. ■ Altro — look below the surface — you'll see the difference. ■

ALTRO® SAFETY FLOORS

Toll-free: 1-800-565-4658 **Web site:** www.altrofloors.com **E-mail:** info@altrofloors.com

CIRCLE 18 ON INQUIRY CARD

Resort & Country Club
Course No. 8
Club Corporation of America
James R. McVicker Jr. AIA

Roofing Contractor: McRae Roofing Inc
Color: Hemlock Green
Profile: Snap-Clad.

*Not to mention the blues, reds and 30 other standard colors on steel. (18 on aluminum)

SNAP-CLAD™
Metal Roofing Panels

Pinehurst Resort & Country Club recently completed its new clubhouse for its Centennial Course No. 8. The clubhouse, designed by architect James R. McVicker, evokes the rich tradition of Pinehurst and its position at the top of a hill makes it visible from all corners of the course. The project features over 9,000 sq. ft. of Snap-Clad panels with a Hemlock Green PAC-CLAD finish. McRae Roofing Company of Asheboro, North Carolina installed the panels.

Petersen Snap-Clad Panels are corrective leveled as they are roll-formed, allowing us to provide panels of unmatched flatness. PAC-CLAD is a full Kynar 500® finish covered by a non-prorated 20 year warranty. **For complete information, please call us at 1-800-PAC-CLAD or visit our redesigned web site featuring new on line ordering @ http:// www.pac-clad.com.**

PAC-CLAD®
Petersen Aluminum

1005 Tonne Road, Elk Grove Village, Il 60007
1-800-PAC-CLAD ▪ FAX: 1-800-722-7150 or 1-847-956-7968

Other Plant Locations:
Annapolis Junction, MD: 1-800-344-1400 ▪ Tyler, TX: 1-800-441-8661 ▪ Kennesaw, GA: 1-800-272-4482

NEW **Order on line! Visit our site @ http://www.pac-clad.com**

CIRCLE 59 ON INQUIRY CARD

Tech Briefs

Rating green buildings involves several different software systems • Builders at a conference on sustainability learn to market green houses • ICQ facilitates project collaboration

UNDERSTANDING THE INTERNATIONAL SYSTEMS FOR RATING SUSTAINABLE BUILDINGS

Buildings cause significant environmental damage, deforestation, loss of biodiversity, ozone depletion, flooding, and pollution of waterways, land, and air. According to the Worldwatch Institute, almost 40 percent of the 7.5 billion tons of raw materials annually extracted from the earth are transformed into concrete, steel, drywall, glass, and rubber—and one-quarter of the annual wood harvest is used for construction. Buildings consume about 40 percent of the world's energy production, and they create 40 percent of the sulfur dioxide and nitrogen oxides that cause acid rain and smog.

Many design teams possess the knowledge to build more efficiently, though the success of their efforts is hard to quantify. Environmental rating systems give building owners and architects benchmarks that allow them to compare their green building to others. Rating systems are meant to raise the bar, to transform conventional building practice by beginning to define what constitutes a sustainable building, given the state of the art in manufacturing, construction, and design. Each system has components that describe and promote sustainable design techniques.

Among these systems, the best known internationally is the Building Research Establishment Environmental Assessment Method (BREEAM), which was launched in the U.K. in 1990 (http://products.bre.co.uk/breeam/breeam1.html). It was upgraded in 1998.

Designers in the U.K. say that BREEAM has become standard in a design firm's repertoire. Versions of BREEAM are used to rate structures in many European countries, as well as in Canada and Hong Kong. In 1997 the Canadian government adapted BREEAM to assess federal buildings, but the system has yet to be released for use in the U.S.

BREEAM's strength lies in its application to buildings over their useful life. This is important: Well-managed buildings that are less energy-efficient may actually perform better than well-designed, poorly managed new buildings.

Back in the U.S.

More familiar to architects in the States is the rating system of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED), which just released its second version this spring (www.usgbc.org).

To be effective, rating systems must have a wide range of applications: building owners, tenants, architects, engineers, general contractors, specialty contractors, and all others who are asked, in essence, to collaborate for environmental goals.

One of LEED's greatest strengths lies in the commitment of its "parent" organization, the U.S. Green Building Council (USGBC). Major federal, state, regional, and local government agencies, professional organizations (such as the AIA's Committee on the Environment), trade associations, manufacturers, research laboratories, and academic institutions comprise the group. Together they promote the understanding, development, and implementation of green building policies, programs, technologies, standards, and design practices across the country.

Under LEED, a building receives a rating ranging from "certified" through "platinum," depending upon the measures adopted and credits accrued. The City of Seattle recently announced that all its public buildings over 5,000 square feet must meet or exceed LEED's silver rating. The current version of LEED applies to the design phase of commercial and high-rise residential buildings. Future versions will apply to operations and maintenance.

[illegible] CONTENT MATERIAL

[illegible]	[illegible] DOLLAR [illegible]	[illegible]	% POST INDUS[illegible] [illegible] CONTENT	[illegible]
Concrete with flyash	$920,000	0	5	$23,000
Structural steel	$10,125,000	25	0	$2,531,250
Light gauge steel studs	$280,500	25	0	$70,150
Fiberglass insulation w/ recycled glass cullet	$130,400	18	7	$28,036
Mineral-fiber ceiling tiles w/ recycled mineral wood and cellulose	$835,900	5	63	$305,104
Recycled steel suspension system	$557,000	25	0	$139,250
Carpet tiles w/ recycled-content backing	$1,272,000	0	52	$330,720
Steel doors and frames w/ recycled content	$164,400	25	0	$41,100
Ceramic/recycled glass floor tiles	$58,500	0	55	$16,088
Recycled content plastic toilet partitions	$60,600	25	25	$22,725
Access floors with recycled steel and concrete fill	$3,200,000	13	10	$576,000
TOTALS	[illegible]			$4,083,397

The Total Equivalent Value is calculated by adding the following numbers:
The product of the Material Value multiplied by the % Post-consumer recycled content.
The product of the Material Value multiplied by the % Post-industrial recycled content, divided by 2

(Note: Under this LEED credit, Post-Industrial recycled content is "valued" at 50%of the value of L
Post-Consumer recycled content.)

International consensus

Another international rating system was first presented at the Green Building Challenge Conference in Vancouver in 1998. GBTool (www.greenbuilding.ca/gbc98conf/brief/brief.htm) was applied to the 34 "best practice" green buildings from all over the world that were presented at the conference.

This software is intended to create international consensus on an environmental performance-assessment system—not an easy goal, considering the different problems and needs of each country. The advantage of this system is that it could be tailored to, say, energy conservation or environmental preservation, depending on the priorities of each country. The next phase will be presented at Sustainable Building 2000, which will be held in Maastricht, The Netherlands, in October.

How rating systems work

Rating systems set specific targets, requiring careful documentation by the design team, general contractor, and owner. For example, in order to encourage use of building products containing recycled content, LEED's "Materials Credit 4: Recycled Content" requires designers to specify that either 25 or 50 percent of the total building materials contain at least 20 percent post-consumer recycled material, or 40 percent post-industrial recycled material.

To see if this is feasible, the architect compiles cost estimates, i.e., the overall materials cost for the project (excluding the costs for mechanical, electrical, plumbing, and equipment), and the cost for each of the recycled-content materials used in the building.

The percentages of recycled content (both post-consumer and post-industrial) for each of the recycled material types must also be researched. This information is then entered into a spreadsheet. The total cost for all of the recycled-content materials is calculated and compared against the minimum criteria of 25 or 50 percent of the total materials cost for the building. In the example shown in the chart (previous page), the total recycled material cost is more than $17.6 million, or approximately 52 percent of the total materials cost of $33.2 million.

The second value that's verified is the aggregate percentage of recycled content, which takes into account the fact that post-consumer recycled content has twice the value of post-industrial recycled content. Recycled content information is entered for each material type by origin, and a weighted percent of recycled content is obtained. This number must be over 20 percent to qualify for points. The example provided in the chart meets this minimum; the average is 23.2 percent.

What do architects think?

In the U.S., the LEED rating system is proving to be a catalyst for green design. There is a groundswell of interest among architects eager to acquire new green skills.

Bill Reed, AIA, with Natural Logic Inc. in Chevy Chase, Md., and co-chair of LEED's technical committee, has worked with many owners and architects, helping them apply LEED during schematics and design development. "Architects who are not proficient in green buildings begin to understand whole-systems thinking after working with LEED," Reed says.

"The rating system gives architects and owners a framework in which to work. Their reaction to the systems is, 'Oh, this is what green buildings are all about. This is not as mysterious as we thought,'" he says. LEED encapsulates all of the basic concepts of sustainable design in short order, he adds. "One of our recent clients told us that for the first time, he felt he was able to hold green in his hands."

Compared to other complex codes and standards, LEED is easy to access and understand. "The LEED score sheet brings out the competitive instincts in both building owners and architects," Reed says. "In that way more is accomplished." *John Amatruda and Catherine Coombs, Steven Winter Associates*

CONFERENCE PROVES THAT HOMEBUILDERS WANT TO LEARN ABOUT SUSTAINABLE DESIGN TOO

At the opening session of the Green Builder Conference, keynote speaker Steve Thomas, host of *This Old House*, was applauded when he questioned the logic of calling a 6,000-square-foot house for three people "green"—no matter what natural materials are used.

This and other activities during the conference, which took place in Denver from April 5 to 8, invited homebuilders to think creatively about green. Although the number of builder attendees represented a small percentage of the National Association of Home Builders, who sponsored the conference, attendees clearly were aware of the impact that their homes have on the environment.

Educational sessions provided guidance on environmentally preferable materials and on starting a green building program. Nadav Malin, an editor with *Environmental Building News*, provided basic guidelines, advising them to avoid products containing PVCs, HCFCs, and CCA-treated wood. But even if builders are willing, the market may not be ready, he said.

Builders expressed frustration at not being able to get environmentally preferable materials from their suppliers.

During some sessions, builders related their experiences in the field while trying to build with new techniques for energy and resource efficiency. McStain Enterprises, a production homebuilder in Boulder, covered green marketing. His approach is to send a consistent message about his company's commitment to environmental responsibility, from the use of green materials to unconventional planning, which mixes housing types and price points within communities. There was also a session on land development.

Conference exhibitors displayed a range of green materials, such as structural insulated panels and insulated concrete forms. There was also a handful of photovoltaic products dealers. The Department of Energy displayed educational materials on their programs to promote energy-efficient construction and primers on proper window and equipment selection for different climates in the U.S.

Christine Bruncati

ICQ, OR I SEEK YOU, COMES TO THE RESCUE ON WORLDWIDE PROJECT COLLABORATIONS

It would be hard to find two places further apart on the globe than Hobart, Tasmania, and Avon, Conn. Yet from these two disparate locations, an Australian architect and an American computer programmer closely collaborated on a recent project almost as if they were sitting in cubicles next to one another. Using the Internet and a popular, free program called ICQ—or "I seek you"—the two men conversed via E-mail in "real time" and exchanged valuable CAD data.

Unlike "chat rooms," which bring people together by happenstance and subject matter, ICQ lets E-mailers from any Internet domain know when the people they want to correspond with are online. Mirabilis' ICQ (www.icq.com) software was acquired in 1998 by America Online, which has its own variation of this interface called Instant Messenger. Together, the two claim more than 65 million users.

The Connecticut half of the collaboration, David Geisselman, chief programmer for DataCAD, was putting together an update feature for his company's software products that would allow variations for the display of metric numbers, depending on which metric standard is adopted.

For example, Australia, New Zealand, and South Africa, among others, use the AS1100 standard, which differs subtly in its display of metric numbers from, say, the German DIN standard. As architects are universally picky about how dimensions are displayed, it was crucial to Geisselman to get it right.

His Australian partner was Ian Johnson, principal of a small Australian architectural firm whose ICQ number Geisselman noticed on an E-mail correspondence with the company.

Using the real-time exchange, Geisselman sent Johnson incremental program updates while conversing with him about such minutiae as, "If the distance dimensioned is one meter, should the numerical string be displayed as '1 000' or '1'?" Johnson's immediate reply: "Here we only use millimeters, so it would be '1 000.'"

Says Johnson, "With David [Geisselman] at his desk pondering the challenge and myself trying to get a project or two out at all hours of the night anyway, ICQ was a natural."

Geisselman says he loved the process: "The ability to converse in near real time with Ian made my job a reality even though I had no prior knowledge of Australian standards." This example bodes well for similar close collaborations between architects and their consultants or even their clients, whatever the distance that separates them.

Evan H. Shu, AIA

What can you do with certified wood?

1001 Emerson
Palo Alto, CA

Esherick Homsey Dodge and Davis
Palo Alto, CA
Architects

Drew Maran Construction & Design
Palo Alto, CA
General Contractor

FSC-Certified Cherry Wood
Base, Oven & Pantry Cabinets

Plyboo Flooring

Certified Forest Products Council
CERTIFIED WELL-MANAGED FORESTS

info@certifiedwood.org • www.certifiedwood.org

essage made possible through a grant
he Pew Charitable Trusts.

CIRCLE 29 ON INQUIRY CARD

Wire & Cable Management for OPEN-PLAN SPACES

AIA/ ARCHITECTURAL RECORD CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read Wire and Cable Management for Open-Plan Spaces. To earn one AIA/CES Learning Unit including one hour of health safety welfare credit, answer the questions on page 186 and follow the reporting instructions on page 246. Or use the Continuing Education self-report form on *Record's* Web site—www.architecturalrecord.com.

LEARNING OBJECTIVES:

- List types of wire management systems for open spaces.
- Describe the factors to consider in selecting a wire management system.
- Explain how the selection of wire management systems affect the location of power and data outlets at the workstation.

The data/communications demands on buildings are increasing rapidly as high-speed data networks, video, and other technologies become commonplace. At the same time, work space itself is continually evolving to meet new work styles, such as task-oriented teams. One result is the popularity of open-plan space, which is more flexible than hard-wall architecture and can more readily be reconfigured to meet changing requirements.

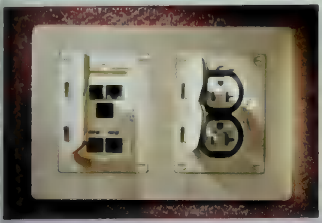
But true flexibility is achieved only when electrical wiring and data/communications cabling can be repositioned quickly and efficiently. This is especially true in open-plan spaces, where partitions are not available to serve as ready-made cable carriers. Often, wiring and cabling must provide workstation functionality while remaining essentially invisible.

From a wiring perspective, open space may be defined as any space where power and data/communications can not be conveniently accessed from the wall. These are often large areas, but they may also be smaller, more specialized spaces such as conference rooms and training facilities. Whether it's a simple telephone jack or multiple LAN connections and video conferencing, all open spaces need flexible access to power and data/communications services.

The predominant method of providing open-space access to power and data/communications services is through or by connection to modular furniture. These units may contain integral cables and connections or they may have plain walls with external services attached or accessed in the work area. In either case, electrical wiring and data/communications cabling must be brought to the vicinity of the workstation. There are several types of wire and cable management systems that are well suited to this task: infloor/underfloor (duct, floor box), throughfloor (poke-thru) raised floor, and overhead. The selection of a particular system depends on a number of factors:

- The amount of flexibility required in the space.
- The churn rate of the space.
- The likelihood of adding or changing data/communications services, including system upgrades like fiber-to-the-desk.
- Aesthetics, including the type and style of service activation points.
- Ease of access to service activations.
- Cost, including life cycle cost.

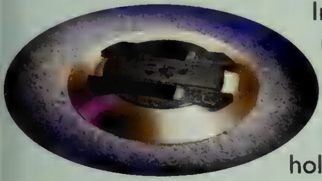
INFLOOR WIRE & CABLE MANAGEMENT SOLUTIONS



Infloor distribution systems are ideal for open-plan areas such as offices with modular furniture, schools, and retail stores. They are invisible except at access points and provide capacity and a high degree of protection to sensitive cables. The type of construction is the first key to determining whether an infloor system is appropriate and, if so, which system to choose. Thus, this decision must be made early in the design process. If the building is of steel frame construction, a cellular deck system is often the most cost-effective solution. These systems perform both structural and wire and cable management functions. They are part of the concrete forming system and the steel reinforcement for the slab, as well as wire and cable distribution systems.

If the construction method is reinforced concrete, there are numerous options available, including underfloor duct systems. Ducts may be installed in single, double, or triple parallel runs or as modular (cellular) units. These systems can accommodate even the most complex wiring and cabling, offering flexibility in capacity and layout.

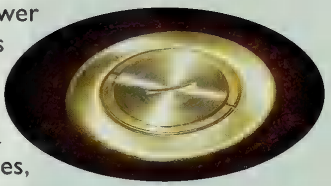
POKE-THRU DEVICES



In new construction and retrofits, fire-rated poke-thru devices can be precisely located within open spaces. Installed in core-drilled holes, they enable wires and cables to penetrate from the plenum space through the concrete slab to the floor above. Poke-thru devices can be installed 2-ft. on center and not more than one per 65 sq. ft. of floor area. Poke-thru devices are typically U.L. classified for 2-4 hour fire rating.

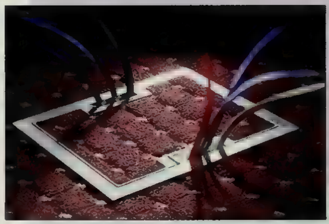
Poke-thru devices can be installed at almost any time in the construction cycle after the concrete has been poured. This provides a large window of opportunity to accommodate late design changes. Because wiring and cabling is not located in the floor, designers also have the advantage of more precise measurements and can wait until late in the construction timetable to locate workstation services.

FLOOR BOXES



Floor boxes provide power and data/communications services to open space areas and workstations. They are available in a wide range of sizes, styles, and materials. If the application is on-grade, a cast iron floor box or an approved on-grade stamped steel floor box with vapor barrier is required. If the application is above-grade, a stamped steel box may be more appropriate. Nonmetallic floor boxes can be used as a cost-effective alternative to stamped steel and cast iron. Unlike steel and cast iron boxes, PVC boxes can be trimmed to floor level after the concrete pour. Floor boxes are available in both shallow and deep versions.

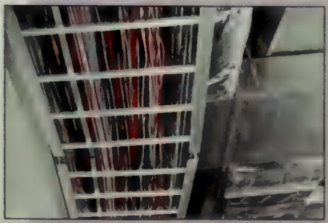
RAISED FLOOR SYSTEMS



Raised floors are no longer confined to computer rooms, where they first gained prominence by managing large quantities of data/communications cabling and power wiring. In addition to providing physical space for cables, raised floors offer the advantage of convenient access to power and data/communications outlets housed in raised floor boxes. As a rule, these boxes provide dual service capability, allowing for the installation of both power and data/communications devices. Typically, a hole is cut into the raised floor panel, the floor box is set in the opening and secured to the floor, and power and data/communications service is brought to the box.

In order to maximize the flexibility and cost benefits of raised floors, many designers are now also specifying manufactured wiring systems. A manufactured wiring system consists of factory-assembled connectors and cable assemblies that provide a "plug-and-play"interface for power wiring. An estimated 45 - 55 percent of raised floor systems now employ a manufactured wiring system.

OVERHEAD SOLUTIONS



The alternative to placing wires and cables in or under the floor is to locate them above the open space. The wire and cable management system is typically concealed

by a drop ceiling, but in loft-style spaces they are often left exposed to view. Although hangers and hooks are sometimes employed for low-density applications, cable trays provide a solution for higher capacity applications. They offer a high degree of flexibility in terms of locating the components and accessing the cabling contained within them. Several styles of cable tray are used in commercial buildings:

- **Center spine cable trays** consist of a central support member with a series of rungs that support the cable.
- **Solid bottom cable trays and wireway** offer an effective way to manage wiring while keeping it accessible, organized, and secure.
- **Wire basket trays** are lightweight and can be easily configured to avoid obstructions.
- **Ladder cable trays** offer strength and high capacity for heavy-duty applications.

Designers who choose overhead wire and cable management solutions must resolve the issue of providing electrical wiring and data/communications cabling to individual workstations or open space work areas below. There are several popular options for this:

- **Existing columns** may be modified to create space that conceals wires and cables. This option is most effective where workstations are clustered around columns.
- **Architectural columns** are non-load-bearing design elements that mimic structural columns and provide space to conceal wires and cables.
- **Service poles** carry wires and cables directly from overhead space to workstations. Although they tend to interfere with sight lines and the openness of large spaces, service poles are cost-effective and can be easily relocated.
- **Perimeter raceway** can be run vertically on walls to bring wires and cables down to work level, and then horizontally to feed workstations that are located along the perimeter of open spaces.

POINT OF USE CONSIDERATIONS

The selection of a wire and cable management system often dictates the location of power and data outlets at the workstation. For example, floor boxes include integral connection points. Infloor systems and poke-thru devices, on the other hand, offer many activation options that allow access to wires and cables, and provide connection points for workstations. These "activations" are generally located at prescribed intervals along each infloor "run." This provides a uniform grid pattern throughout the open space. Activations may also be located at irregular intervals to meet specific space requirements. There are three main styles of activation:

- **Flush activations** provide low-profile access to power, voice, data and video.
- **Raised activations** are less aesthetically pleasing, but provide enhanced capacity and ease of use.
- **Furniture fittings** minimize clutter and trip hazards by connecting directly to modular furniture. Furniture panels may contain integral wire and cable management systems and built-in connection points. Alternatively, standard furniture can be modified with the addition of connectivity devices.

LIFE CYCLE COST ISSUES

Perhaps the most important variable that will influence the selection of a wire management system is the total cost of the system over the life of the building. No longer is it enough to simply calculate the material required and the labor needed to install it. This initial cost is less meaningful -- and even misleading -- in a changing environment where employees are frequently relocated, business functions are redefined, and new computer and telecommunications systems are added. What is far more reliable is the life cycle cost, which takes into account the expenses associated with changing and modifying a wiring system over the course of its useful life.

As soon as the type of construction and the general layout of the building are determined, life cycle analysis should be conducted to aid in selecting the most cost-effective wire management system.

CONCLUSIONS

In the early days of the data/communications revolution, aesthetics were often sacrificed because the benefits of local area networks and other communications systems were so great. More recently, however, an aesthetically pleasing work environment has become a high priority. Today's integrated wire and cable management systems are designed to be aesthetically pleasing as well as functional. The selection of a particular system depends on a number of factors, but the objectives should be to maximize flexibility, minimize aesthetic interference, and maintain options for future technology. ■

A COMPARISON OF OPEN-PLAN WIRE AND CABLE MANAGEMENT SYSTEMS

System	Capacity	Flexibility	Aesthetics	Initial Cost	Life cycle cost
Service Poles	2	5	1	2	1
Cable tray	5	3	5*	3	3
Poke-thrus	3	3	4	3	2
Cellular deck	4	3	5	5	4
Underfloor duct	4	3	5	4	3
Floor boxes	3	2	4	3	3
Access floor	5	5	3	5	2
1 = lowest	5 = highest	* When hidden by drop ceiling.			

CASE STUDIES

1 CABLE TRAY PROVIDES FLEXIBILITY IN NEW ARCHITECTURAL OFFICES

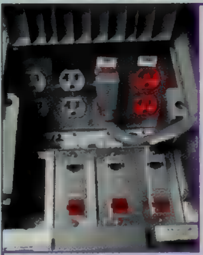
The new Washington offices of STUDIOS Architecture occupy all four floors of a 1983 building that was extensively renovated. "The challenge was strip out everything and create a loft-style space with a lot of focus on natural light," says Bill Deegan, the designer/project manager. This meant very little hard-wall architecture and plenty of exposed services, including power and data/communications cabling.

"We looked at several options for wire and cable management. We wanted to have incredible flexibility to make the space fully functional," Deegan recalls. The solution was to run cable tray across exposed ceilings to the walls and then down to workstations. According to Deegan, "Open tray running against the exposed deck works well with other building materials and the natural light."

2 OPEN SPACE SOLUTION FOR NEW LAW SCHOOL BUILDING

Suffolk University Law School's new David J. Sargent Hall is arguably the most technologically advanced building of its kind. To accomplish this objective, the seven-story, 293,000-square-foot building located near the Massachusetts State House in Boston was designed with a robust but nearly invisible wire and cable management infrastructure.

The law library occupies most of the building's top three floors. Seating capacity of 880 includes lounge chairs, tables, and 344 individual study carrels. Every seat offers laptop access to the Internet, a CD-ROM network, and specialized legal research tools such as Lexis and Westlaw. Because many of the carrels are located away from walls, an open space wire and cable management system was required. Poke-thru devices provide power and data cabling to carrels and tables, as well as partitions.



3 OFFICE TOWER IS DESIGNED FOR THE LONG TERM

A primary consideration in the design of EMC Insurance Companies' 20-story tower in Des Moines, Iowa, was flexibility. According to Roger Baldwin, Contract Administrator with Brooks Borg Skiles Architecture Engineering, "The owner also wanted an aesthetically pleasing system that would work well with moveable partitions and modular carpet." The solution was a high-capacity cellular infloor wire and cable management system. Access to power and data services in open space areas is provided by high-capacity multi-service recessed or raised activations.

The infloor wire and cable management system meets EMC's requirement that building systems continue to meet every need as long as the building is in use. "They can set up workstations anywhere on the floor, there is plenty of capacity for adding cabling in the future, and the infloor system works very well from an aesthetic perspective," says Baldwin.

4 INFLOOR SYSTEM BRIDGES GAP BETWEEN 19TH AND 21ST CENTURIES

When 20 West 9th, a 19th century Kansas City landmark, was renovated, one challenge was installing data/communications systems in the tight confines of a 100-year-old building that was not originally designed for supplying power and data to workstations.

Architects turned to an underfloor duct wire management solution that allows multiple duct configurations. "The technique is simple, really," says project architect Kevin Harden, principal with Gastinger Walker Harden. Contractors removed the prior floor finishes and sawed through wood flooring. Duct components were then slipped into the void of the tongue and groove floor. A low-density concrete topping was poured over the elements. "The duct allows us the flexibility to furnish data and power to all the open office space," says Harden.

LEARNING OBJECTIVES:

After reading **Wire & Cable Management for Open-Plan Spaces** you will be able to:

- List types of wire management systems for open spaces.
- Describe the factors to consider in selecting a wire management system.
- Explain how the selection of wire management systems affect the location of power and data outlets at the workstation.

INSTRUCTIONS

Refer to the Learning Objectives above. Complete the questions below. Then turn the page upside down and check your answers. Fill out the reporting form on page 246 and submit it or use the Continuing Education reporting form on *Record's* web site www.architecturalrecord.com to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS:

1. Why are wire and cable management systems essential to open-plan work spaces?

2. How is wiring and cabling brought to the workstation in open-plan spaces?

3. What is the main advantage of poke-thru devices over infloor ducts?

4. What are the advantages and disadvantages of overhead wiring systems?

5. What factors need to be considered in selection of a wire/cable management system?

ANSWERS:

1. Open-plan work spaces are popular because of their flexibility. The work space can be reconfigured to meet changing needs within a company. To make this concept work, electrical wiring and data cabling must be repositioned quickly and easily. Wire and cable management systems provide the electrical and data repositioning for workstation functionality while remaining unobtrusive.

2. In open-plan spaces, where there are no walls to run wiring through, the challenge is to bring the wiring and cabling to the vicinity of the workstation. Three types of wire and cable management systems suited to this task are infloor, raised floor, and overhead. Each systems has advantages and disadvantages. Once the wiring is brought to the workstation it can be accessed through the modular furniture, or outlets in the floor or on columns or poles.

3. Poke-thru devices can be used in new construction and retrofits and can be precisely located within open spaces. They can be spaced as closely as every two feet and maintain the fire rating of the slab. The fact that they can be installed at almost any time in construction allows for late design changes.

4. Overhead systems offer a high degree of flexibility for locating the components and accessing the cabling they contain. These can be used with a drop ceiling or the cable trays can be exposed in loft-style spaces. The disadvantage of overhead systems is in visually dropping the wires and cables down to the workstation. This involves extra design work through concealing wire and cables in columns, service poles, or perimeter raceways.

5. The factors to consider in selecting a wire management system are location requirements for outlets and cost. The different systems offer different types of activation outlets, flush or raised, and uniform spacing or irregular configurations. Cost over the life of the building can be a major influence on selection of a wire/cable management system. This involves calculating the material and labor required to install as well as the life cycle cost which takes into account the expenses of changing and modifying a wiring system over the course of its useful life.

WIREMOLD®

60 Woodlawn Street West Hartford, CT 06110

TEL: 800-621-0049 FAX: 860-232-2062 WEB SITE: www.wiremold.com

Circle 1 on inquiry card

NECA/IBEW CONTRACTORS • WE DO MORE

We're not in the insurance business, but we sell peace of mind.

There's no substitute for getting the job done right the first time. NECA/IBEW contractors have the best trained workforce to head off potential problems before they happen and to insure healthy performance on any job.

NECA/IBEW contractors deliver peace of mind on all types of electrical construction jobs, especially those involving the latest technologies. NECA contractors can also monitor the efficiency and reliability of a power distribution system, providing preventive maintenance that saves money and helps to avert system breakdowns.

When you need the job done right the first time, on time and on budget, call a NECA/IBEW contractor.

To hire an electrical contractor who employs IBEW workers, contact your local NECA chapter or IBEW local union. To find a NECA contractor, call The NECA Connection at 800-888-6322 or visit our website.

http://www.necanet.org

National Electrical Contractors Association
International Brotherhood of Electrical Workers

THE QUALITY CONNECTION · A COMMITMENT TO EXCELLENCE

CIRCLE 56 ON INQUIRY CARD

[illegible] Autodesk is a registered trademark and iDesign is a trademark of Autodesk Inc. in the U.S. and other countries

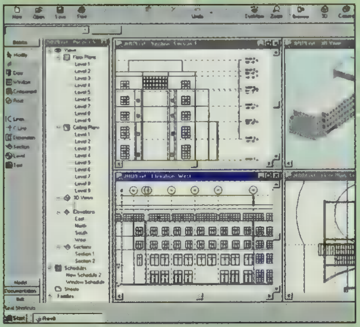
iDESIGN™
SUDDENLY YOUR THINKING BECOMES POSITIVELY LUMINOUS.

Never have your ideas blossomed so brilliantly. Never have the boundaries of architectural design been broken down so willingly. And never has there been a creative environment so open to innovation. Now Autodesk combines the potential of the Internet with exceptional new design technologies to help you realize your very own vision. See what iDesign can do for you. www.autodesk.com/bloom.

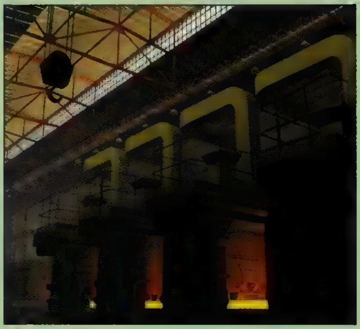
autodesk

COMPUTERS

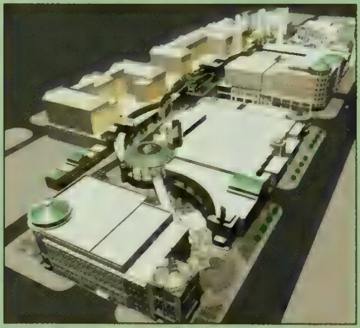
New software tools enhance the architect's business and design skills.



p. 190



p. 198



p. 205

p. 209

The computer is changing every aspect of the way architects work; everyone knows that by now. But tracing the origins of CAD and predicting how architects will draw in the future—that's the business of the Program of Computer Graphics at Cornell University. This cadre of imaging experts, many of them students, has been shaping drawing and modeling programs since 1974. Catch a glimpse of their work and the surprising future of drawing on page 198. You can also see the future of marketing for architects, which marries the Internet, databases, and the old reliable print brochure, in a firm case study, page 190. *Wendy Talarico*

190 **Strategic Marketing**
198 **Cornell Graphic's Lab**
205 **Digital Architect**
209 **Software Reviews**

Technology tools for marketing

COMPUTERS AND COMMUNICATIONS ARE TRANSFORMING THE WAYS IN WHICH ARCHITECTS SEEK AND WIN NEW BUSINESS

By Jerry Laiserin, FAIA

Savvy utilization of computer technologies for gathering, managing, and presenting information can turn a good marketing effort into a great one. Even a firm that already has a successful marketing program in place could win an additional 15 percent of its proposals while being more selective about the work it is pursuing.

Many architecture firms are applying marketing software and hardware to their practices in innovative ways. Davis Brody Bond (DBB) in New York City, a 50-year-old firm with 85 employees, was selected as a case study for this article because of their aggressiveness in applying technology to marketing. DBB's marketing capabilities were significant to its operations long before the advent of computers. Since 1998, however, marketing manager Christina Gilson has upgraded, expanded, and integrated the firm's use of technology tools for marketing. As a result, DBB's current collection of marketing technology tools is a veritable catalogue of the software, hardware, and systems that architects apply to the task of finding and winning new business.

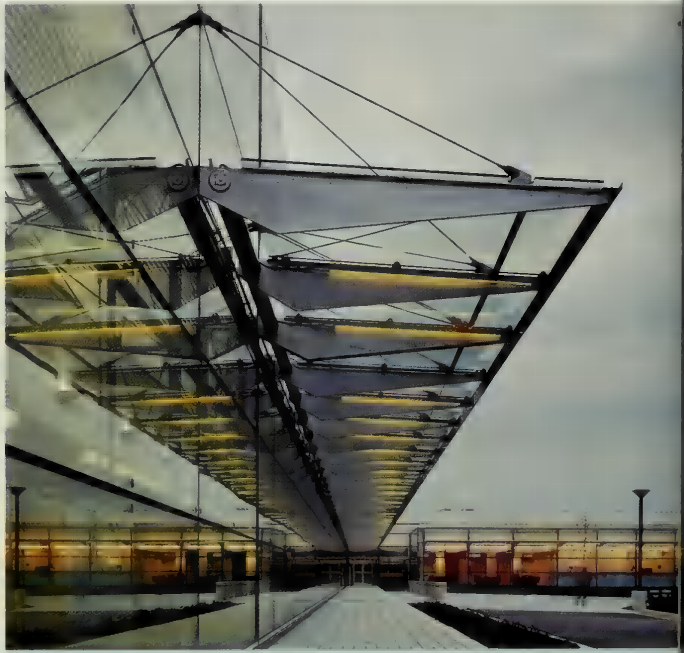
The marketer's toolbox

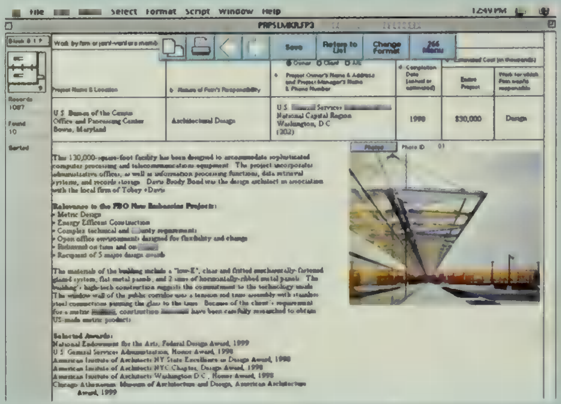
The marketing process revolves around communicating and managing information, tasks for which computers are ideally suited. Eric P. Mott, president of the Society for Marketing Professional Services (SMPS), points out that design firm marketing is increasingly reliant on computers to identify market audiences, develop targeted messages for those audiences, and deliver those messages. "Every marketer's dream is the paperless office, where requests for proposals come in electronically and responses go out automatically," Mott says. "We're getting close, but are not quite there yet."

For design firms, as for other professional services, E-mail, Web sites, and video projectors are rapidly replacing faxes, brochures, and slide shows. The entire marketing or business development life cycle, which consists of nursing along prospective clients from leads to awards, can be enhanced, supported, and managed with the right technology tools.

These tools fall into two broad categories: front-end tools, or the materials that the client or prospect sees; and back-end tools that manage the information the firm uses to create what the client sees and the marketing process. Examples of front-end tools include Web sites, brochures, mailers, press releases, qualifications, proposals, and presentations, all of which (except the Web sites) likely appear in both print and electronic form. In addition to the software for creating and distributing marketing materials, there are specialized hardware devices and computer

Contributing Editor Jerry Laiserin, FAIA, develops collaborative strategies for architects and their technology providers.





Professional images of the U.S. Bureau of the Census in Bowie, Md. (this page top and opposite bottom), and a residence hall at New York University (opposite top) appear in DBB's corporate literature, in corporate slide shows, and on the company's Web site (above).

DBB's brochures include a generic one and others dealing with cultural, healthcare, and other specialties.

services that support the front-end software, such as color printers, laptop computers, computer projectors, Internet access, and Web services.

Back-end tools revolve around database management systems (see "Digital Architect," January, page 149). The marketing-related information stored and manipulated in these databases includes project histories, personnel biographies, image libraries, and contact and proposal tracking. The specialized hardware devices and services that make this back-end software usable by and accessible to the principals responsible for business development include handheld or "palm" devices.

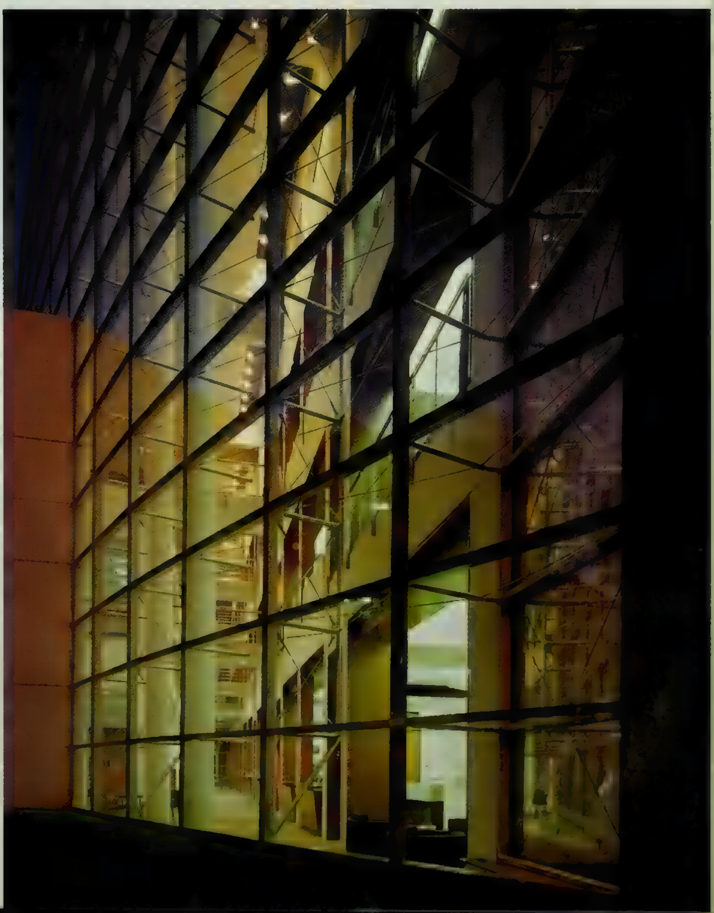
Databases for Marketing

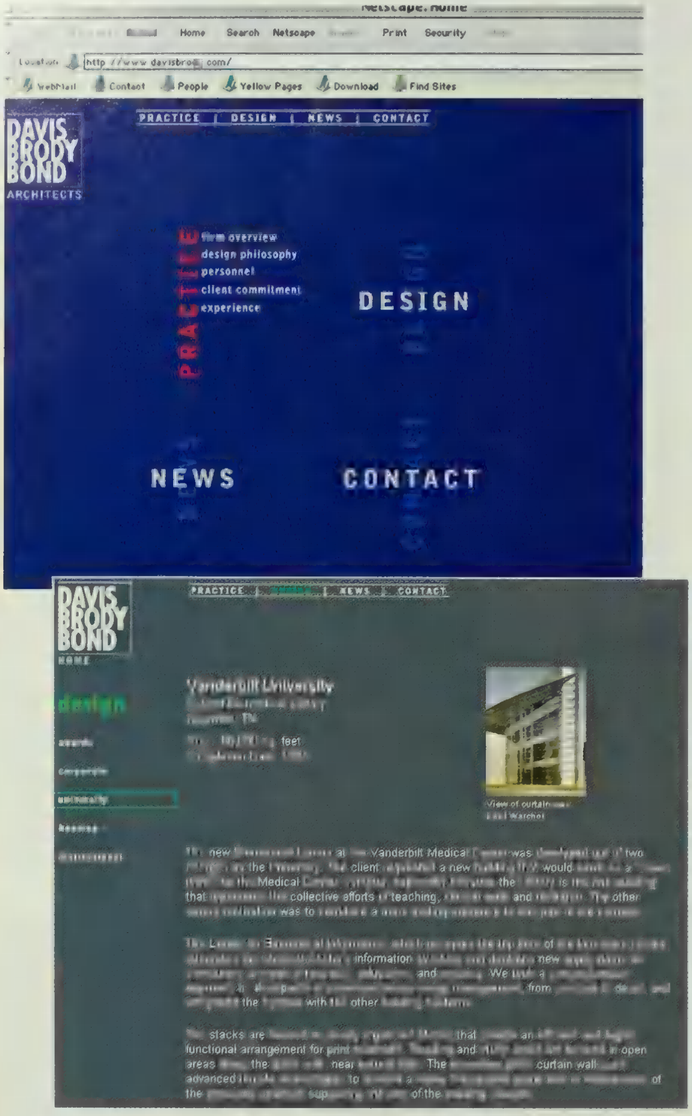
Melding these disparate technologies into a coordinated marketing system means understanding the firm's goals and setting priorities. "If you don't have a good database management system, there's no point in doing marketing," Gilson says. Linking the marketing database management system to the human resources (HR) and accounting databases makes it easy to incorporate project histories (from accounting data) and personnel resumes (from HR data) into proposals. In her previous work at a large environmental consulting firm, Gilson spent three years developing custom database applications that accomplished "only one-third of what the best commercially available marketing management system can do."

The challenge, however, is finding software specifically geared to the marketing needs of architects. The choices are relatively limited compared to the numerous products available for CAD or other architectural applications. Several packages, such as Government Forms from Enlightened Software Inc., InWork from Parallel Resource, and SF254/255 Reporter from CTM, focus primarily on preparing the standard forms 254 and 255 for qualifications and proposals on federal government projects. Although pursuing this type of work is part of DBB's marketing effort, the firm needed a broader solution.

Of the more comprehensive marketing management programs for architects, Gilson found each had its own merits and tradeoffs. A/E Award, from Infomax Corp., offers simplicity and affordability. RFP, from A/E Management Services, provides very comprehensive proposal generation and proposal management functions for both public and private work, with especially strong links to many of the leading accounting packages for architects. Ultimately, however, Gilson selected MarketEdge, from the software company of the same name, based on its balance of features, strong database management functionality, and cross-platform compatibility. (MarketEdge runs on both Windows PCs and on the Macintosh computers preferred at DBB; A/E Award and RFP run only on the Windows platform.)

MarketEdge, which is written in FileMaker Pro, one of the easiest database management systems for end users to modify, proved to be





The blue of DBB's Web site home page (top left) matches its generic brochure. Specific Web pages show samples of the firm's work (left), such as the Vanderbilt University Eskind Biomedical Research Library (above).

an ideal back-end tool for DBB's marketing efforts. The package includes four components or modules: MarketPlace, a core listing of companies and contacts at clients and prospects, which feeds data to the other three modules; ContactManager for scheduling and reporting all communications and follow-ups with prospects; ProposalMaker for writing and assembling proposals, including the SF254/255 forms; and ProjectQualifier, a proposal process monitoring and tracking component that helps marketers evaluate the odds of making a winning proposal. While A/E Award and RFP offer many of the same functions, Gilson preferred the integration among the modules in MarketEdge, which helps to streamline and simplify data entry and data management chores.

At DBB, all firm-wide information, standards, and templates are published internally on the firm's Intranet. This also includes a shared calendar/scheduling program (presently Microsoft Schedule+, but soon to be upgraded to Microsoft Outlook) to manage principals' appointments in synch with the MarketEdge contact manager. The standard desktop calendar and address book software programs also are synchronized to and from each principal's handheld Palm Pilot device via the Palm Desktop software application. Future plans include exporting a copy of the project information list and MarketEdge's main database to the Palm Pilots, so principals always will have that data in hand. Gilson has also looked into wireless data communication services for the Palm Pilots, but found the early generation services too slow and too expensive, a situation likely to change soon as faster and more affordable wireless connectivity comes to market.

Custom tools

With MarketEdge as the main weapon in DBB's marketing arsenal, Gilson could map out a strategy that effectively tied marketing into every aspect of DBB's practice. Gilson believes in "setting up 'corporate' systems with formal structures, even when the firm is small, so you can prepare for being big." For example, while MarketEdge maintains a catalog of resume sheets in its ProposalMaker module, Gilson felt that a full-blown, searchable database of personnel experience and capabilities would be essential to matching the right staff skills to each of the firm's proposals. Working in FileMaker Pro, she built a firm-specific personnel database as a custom extension to MarketEdge.

Gilson identifies the gathering of project history data as one of the most difficult, yet most essential elements of back-end marketing technology. Simply expecting project managers to fill out a form at pro-

THIS WAS BUILT IN JUST SIX DAYS.

Cephren®
can't promise
that kind of speed.
But we do promise
to change the way
you build the world.

You need to coordinate teams of architects, engineers, contractors and suppliers. And you need to procure goods and services from four corners of the world. Which is why you need a more efficient way to communicate and transact in real-time. The solution? Cephren's collaboration and e-commerce framework.

Just access our 100% Web-based, secure workspace from anywhere, using any browser, at anytime. And discover how easy it is to manage costs, mitigate risk and accelerate time-to-market.

Cephren has over 800 firms using its online network representing over $40 billion in construction value around the globe. Clients include The Bechtel Group, BSW International, Gensler, Global Design Alliance, HOK, WAT&G and Webcor Builders; charter E-Commerce customers include E-J Electric Installation Company, Fischbach & Moore Electric Inc., J.A. Penny, Liberty-WESCO, Mass Electric Construction Company, Midwest Mechanical of New Jersey, Turtle & Hughes and Watsco.

Visit www.cephren.com/ad or call 650-845-2000 to learn more about our products and services.

© Copyright 2000 Cephren, Inc. All rights reserved. Cephren and the Cephren logo are registered trademarks, and Change The Way You Build The World is a trademark of Cephren, Inc. in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders.

Cephren®
change the way you build the world™

CIRCLE 108 ON INQUIRY CARD

Designing and maintaining a Web site that gets results

Many first-generation Web sites by architects were little more than digital versions of the firms' paper brochures. A major problem with such static design is the difficulty of updating it to reflect ongoing news and events.

Few firms can afford the staff time and specialized skills needed to generate Web updates internally, and constantly using the services of an outside Web developer can become prohibitively expensive.

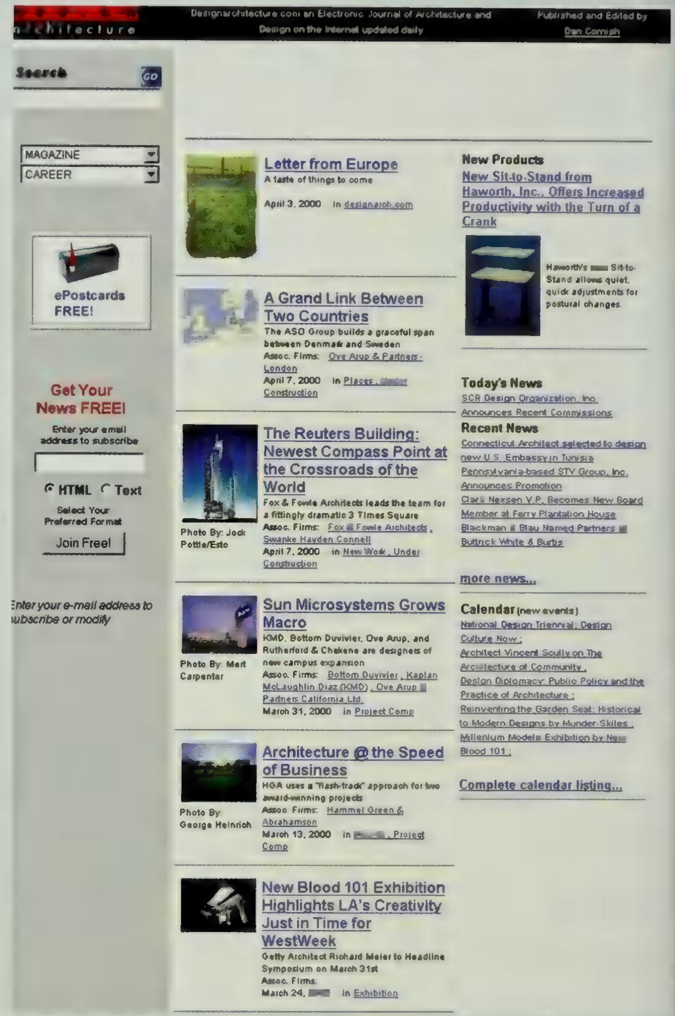
DesignArchitecture (DA), based in Wilton, Conn., is among the first Web development companies to offer standardized, forms-based updates via a browser interface, to otherwise custom-made Web sites. Founded by Dan Cornish, an architectural photographer, DA began as an information service and online forum for critical issues in design and practice. DA's own Web site remains active and continues to expand its scope and audience, while Cornish adds new staff and new services.

The Marketing Department Module powered by DesignArchitecture is a service that allows the company's customers to each have unique Web sites hosted by DA, yet all use the same simple tool for updates to their respective sites whenever they wish. Users like Christina Gilson at DBB have pushed this easy update capability a step further, by linking DBB's update contents to the firm's news releases and additions to its client and project databases.

DA also can provide external hosting of a firm's image database, a library of scanned images of project photos that's used to develop proposals and computer-based slide shows. The images can be sorted in an online "lightbox," and a client-specific URL or Web address can be set up for any individual lightbox collection. This lets users like Gilson to tailor a selection of firm images targeted at the interests of an individual prospect or group of prospects, and E-mail them notice of the selection's location on the Web.

The DesignArchitecture system notifies the architect via E-mail when a prospect has viewed the online images, providing a more economical, timely, and productive process than mailing paper-based brochures.

Similar online image management can be achieved with off-the-shelf image database programs like Cumulus from Canto Software, but they require that architects host the images themselves, something few firms have the in-house storage resources or Internet connection bandwidth to accomplish. *J.L.*



chitecture
Search
Go
MAGAZINE
CAREER
ePostcards FREE!
Get Your News FREE!
Enter your email address to subscribe
◉ HTML ○ Text
Select Your Preferred Format
Join Free!
Enter your e-mail address to subscribe or modify

Designarchitecture.com an Electronic Journal of Architecture and Design on the Internet updated daily

Published and Edited by Dan Cornish

Letter from Europe
A taste of things to come
April 3, 2000 in designarch.com

A Grand Link Between Two Countries
The ASD Group builds a graceful span between Denmark and Sweden
Assoc. Firms: Ove Arup & Partners - London
April 7, 2000 in Places, [illegible] Construction

The Reuters Building: Newest Compass Point at the Crossroads of the World
Photo By: Jock Pottle/Esto
Fox & Fowle Architects leads the team for a fittingly dramatic 3 Times Square
Assoc. Firms: Fox & Fowle Architects, Swanke Hayden Connell
April 7, 2000 in New Work, Under Construction

Sun Microsystems Grows Macro
Photo By: Mert Carpenter
KMD, Bottom Duvivier, Ove Arup, and Rutherford & Chekene are designers of new campus expansion
Assoc. Firms: Bottom Duvivier, Kaplan McLaughlin Diaz (KMD), Ove Arup & Partners California Ltd.
March 31, 2000 in Project Comp

Architecture @ the Speed of Business
Photo By: George Heinrich
HGA uses a "flash-track" approach for two award-winning projects
Assoc. Firms: Hammel Green & Abrahamson
March 13, 2000 in [illegible], Project Comp

New Blood 101 Exhibition Highlights LA's Creativity Just in Time for WestWeek
Getty Architect Richard Meier to Headline Symposium on March 31st
Assoc. Firms:
March 24, [illegible] in Exhibition

New Products
New Sit-to-Stand from Haworth, Inc., Offers Increased Productivity with the Turn of a Crank
Haworth's Sit-to-Stand allows quiet, quick adjustments for postural changes.

Today's News
SCR Design Organization, Inc. Announces Recent Commissions

Recent News
Connecticut Architect selected to design new U.S. Embassy in Tunisia
Pennsylvania-based STV Group, Inc. Announces Promotion
Clark Nexsen V.P. Becomes New Board Member at Ferry Plantation House
Blackman & Blau Named Partners & Buttrick White & Burtis
more news...

Calendar (new events)
National Design Triennial: Design Culture Now;
Architect Vincent Scully on The Architecture of Community;
Design Diplomacy: Public Policy and the Practice of Architecture;
Reinventing the Garden Seat: Historical to Modern Designs by Munder-Skiles;
Millenium Models Exhibition by New Blood 101;
Complete calendar listing...

DesignArchitecture is a Conn.-based Web development firm that supports the sites of many architectural firms, including DBB. They also supply an e-zine.

ject close out rarely succeeds. Instead, she says, "the marketer needs to adapt to people's existing habits. Some will fill out a form, others prefer responding to an E-mail, still others would rather recite the information verbally." The important thing is to collect as much information, such as building type, square footage, construction cost, and so forth, about as many projects as possible, and then use that data to help generate successful proposals for new projects. E-mail reminders and simple on-screen forms help in this information gathering process. "Once the project managers see the payoff in new work that comes, they are more willing to invest time in providing that data about other projects later on," she adds.

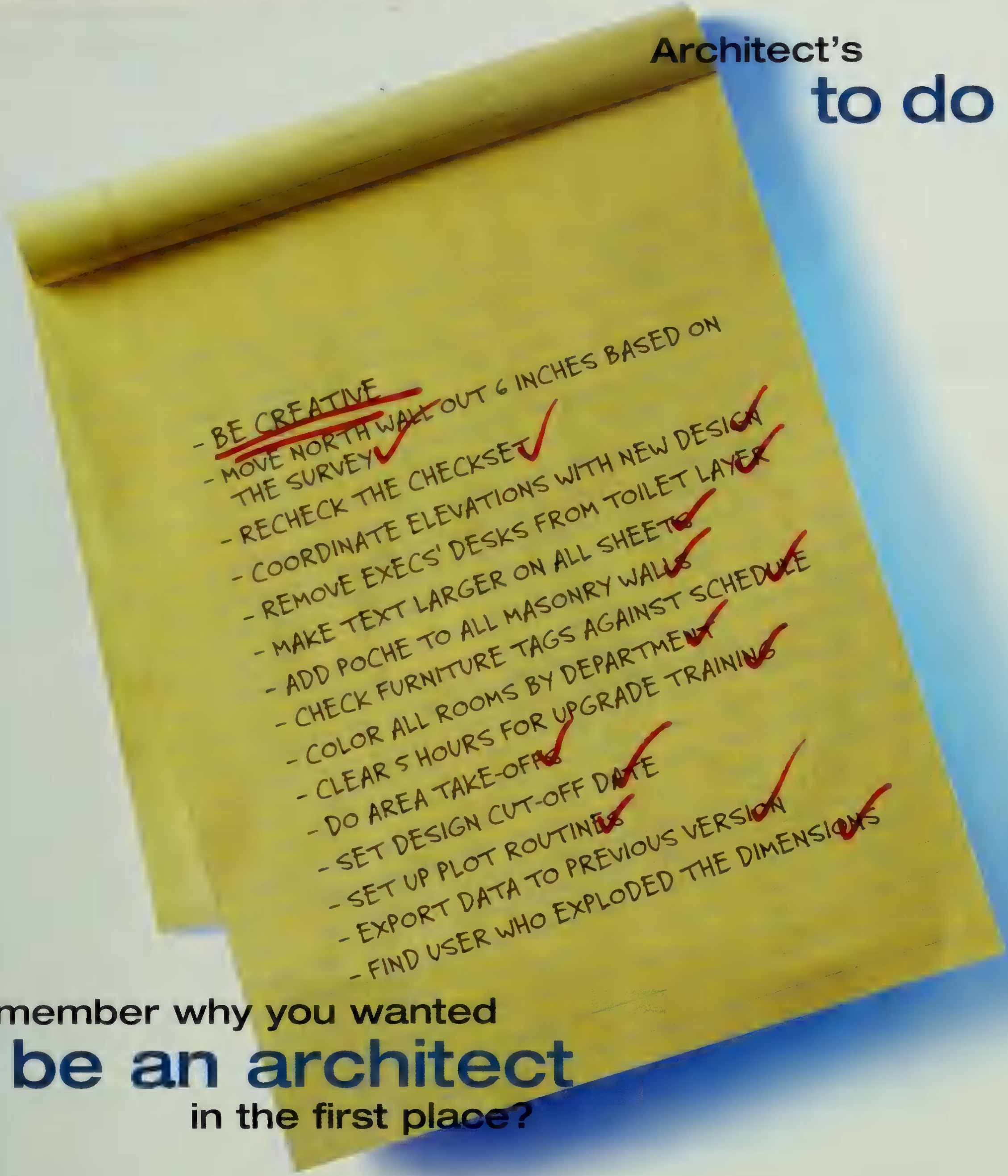
With the back-end databases of prospects, projects, and personnel in hand, plus the MarketEdge tools for contact management, proposal generation, and proposal tracking, Gilson turned her attention to the front-end marketing materials—communications seen by clients and prospective clients. DBB standardizes paperwork by using one suite of desktop software applications throughout the firm for word-processing, spreadsheets, database access, and so on.

In most instances, Microsoft Office fulfills this requirement, but it is important, adds Gilson, "that everyone be able to view project and market data the same way and that all documents be set up consistently." This includes establishing standards and templates that are easy to learn and easy to use for everything from letterheads to title blocks. While programs like MarketEdge organize the content and assembly of proposals, creating the "raw" materials, such as narrative project descriptions or spreadsheets of project history data is best accomplished in Office. Careful organization of all marketing materials, such as proposal boilerplates, also is important and can easily be implemented using the "styles" feature of Microsoft Word.

Marketing via the Web

The principals at DBB have Internet access, whether from their desktops, laptop PCs, or Palm devices, making it convenient to retrieve the firm's own information from anywhere. The Web also offers invaluable resources for market research and background on entire industries or specific company prospects. This background helps the firm ensure that its proposals and other marketing communications are targeting the desired audience and delivering a message the targeted audience will

Architect's
to do list:



- BE CREATIVE
- MOVE NORTH WALL OUT 6 INCHES BASED ON THE SURVEY ✓
- RECHECK THE CHECKSET ✓
- COORDINATE ELEVATIONS WITH NEW DESIGN ✓
- REMOVE EXECS' DESKS FROM TOILET LAYER ✓
- MAKE TEXT LARGER ON ALL SHEETS ✓
- ADD POCHE TO ALL MASONRY WALLS ✓
- CHECK FURNITURE TAGS AGAINST SCHEDULE ✓
- COLOR ALL ROOMS BY DEPARTMENT ✓
- CLEAR 5 HOURS FOR UPGRADE TRAINING ✓
- DO AREA TAKE-OFFS ✓
- SET DESIGN CUT-OFF DATE ✓
- SET UP PLOT ROUTINES ✓
- EXPORT DATA TO PREVIOUS VERSION ✓
- FIND USER WHO EXPLODED THE DIMENSIONS ✓

Remember why you wanted
o be an architect
in the first place?

hitecture is all about composition. . . order. . . harmony.

:il now, however, architectural CAD software has been complicated, unwieldy, I inconsistent with the real work of architecture.

/it changes all that.

evit makes it easy to design, because its parametric building modeler ncourages design alternatives.

evit makes it easy to innovate, because it instantly revises all plans and views ffected by any change.

evit makes it enjoyable to use CAD, because you work directly with real arametric building components, not lines and arcs.

- Revit makes it easy to build, because it automatically maintains schedules with drawings. Revit always guarantees the model's consistency.
- Revit works with your current software, because it can open, read, and write industry-standard files.

In short, Revit changes everything. With Revit, your architectural software adapts to the way you work, not the other way around.

For more information, visit **www.revit.com**. You'll also discover a new way to buy Revit, via subscription. It's revolutionary. Just like everything else about Revit.

1 877 47 REVIT

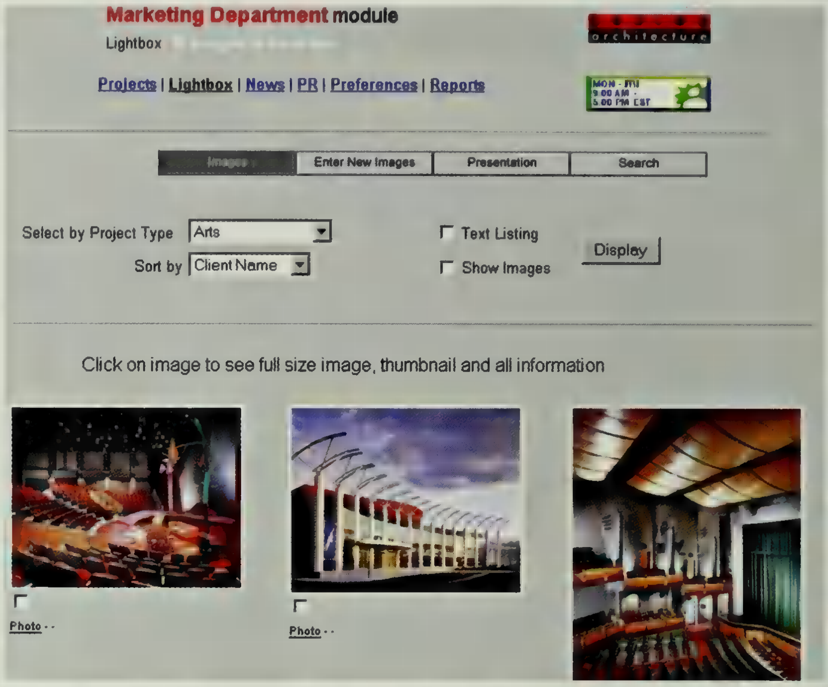
revit
revolutionizing building technology

CIRCLE 61 ON INQUIRY CARD

Copyright© 2000 Revit Technology Corporation
Revit is a trademark of Revit Technology Corporation

respond to. The Web might be used, for example, to research a specific industry, such as insurance, or a city or specific location, so that proposals would include the appropriate terminology. While such information can be critically important in writing a successful proposal, Gilson finds that the skills for productive Web surfing and searching are best left to marketing personnel like herself, rather than being imposed as an additional burden on busy principals.

Of course, the Web is a two way street, enabling a firm like DBB to publish information as well as search for it. For Web publishing services, the firm turns to DesignArchitecture, a Web site provider specifically geared to the needs of architects and offering powerful and dynamic features beyond the usual static Web site (see sidebar).



Marketing Department module

Lightbox

Projects | Lightbox | News | PR | Preferences | Reports

Images | Enter New Images | Presentation | Search

Select by Project Type: Arts

Sort by: Client Name

☐ Text Listing

☐ Show Images

Display

Click on image to see full size image, thumbnail and all information

Three projects on the DBB Web site, hosted by DesignArchitecture, give potential clients an opportunity to see what the firm can do.

Images

Computer-based slideshows are prepared in Microsoft PowerPoint, relying on Adobe PhotoShop for image editing. The firm owns a portable LCD (liquid crystal display) projector, from InFocus, for showing laptop-based PowerPoint presentations to clients. These computerized presentation tools have completely replaced slides and slide carousels.

For all digital images, whether online or off, Gilson prefers professionally produced scans of conventional photography. Digital camera technology changes too rapidly and is not yet able to achieve acceptable resolution for print at an affordable price. Similarly, high-resolution scanners are too expensive and too prone to technological obsolescence for most design firms to justify the cost of scanning in-house. Many of DBB's images that had been scanned five years ago have had to be rescanned to avoid the use of older scans with lower resolution.

Leave-behinds

Gilson prepares paper-based presentations, proposals, and "leave-behinds" in Quark Express desktop publishing software, although she also uses Adobe PageMaker. DBB prints its color output onto paper by digitally preparing the images in an Electronics for Imaging (EFI) Fiery image-processor that feeds a color copier harnessed as a high-resolution printer. Gilson prefers this system, despite its comparatively high cost, because it easily handles the heavyweight paper stock used for proposal covers—more economical color ink-jet printers are capable of competitive image quality, but do not deal well with heavyweight or textured stocks.

The payoff

Although any firm's actual marketing budget is a closely guarded secret, industry averages show that five to eight percent of annual fee revenue typically is plowed back into seeking new work. The majority of that expense goes to the salaries of marketing staff and the non-billable time of principals involved in business development. Technology accounts for a relatively small, but highly visible proportion of the total, yet it provides the leverage that maximizes the use of staff and principals' time.

Specialized software for architectural marketing ranges from a few hundred dollars for the simplest 254/255 programs to more than $10,000 for a multi-user license of the complete MarketEdge package. DBB's Gilson estimates that custom database programming for equivalent functionality would cost at least double that amount. Most firms already have adequate Office, calendar, and scheduling software, requiring only desktop publishing (Quark or PageMaker) and image editing (PhotoShop) tools at another $1,000 or less, combined.

Palm Pilots cost only a few hundred dollars per principal, but color output devices can be costly. Portable LCD projectors range from $2,000 to $8,000, depending on brightness, resolution, and weight. Adequate color printing can be accomplished with a consumer-grade inkjet printer for under $500 or commercial-quality Fiery setups for as much as $30,000. Again, the differences depend on the firm's needs for resolution and speed.

Carl Krebs, AIA, a DBB partner who works extensively with all of these tools, is convinced they are well worth the investment. "Our marketing database lets us shift our time away from the logistics of gathering information and cranking out proposals and instead devote more time to approaching projects strategically and tailoring specific approaches to clients. The whole marketing effort runs smoother and faster, and our 'hit rate' has improved."

Tasks, such as submitting a formal qualifications statement, that used to take several hours, can now be accomplished in minutes. If anything, Krebs notes, "you have to resist the temptation to go after too many RFQs, because they have become so easy to do." Having a marketing person who is an internal champion for the technology also is important, because "you can't impose these things from the top down. On the other hand, architects need a well-documented set of procedures for their databases and other tools, so they don't become overly dependent on any one individual."

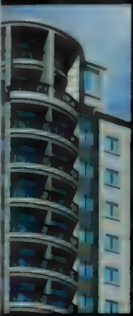
The contact management software, calendar, and Palm Pilot that DBB provides for each partner "help us leverage the relationship building, which remains the key element of our marketing effort," according to Krebs. Mott of the SMPS concurs that "professional services ultimately rely on establishing and maintaining personal relationships." Technology, it seems, will never replace the handshake and the smile. ■

WWW *For a list of vendors who provide digital marketing tools, go to* ***Digital Architect*** *at:* ***www.architecturalrecord.com***

www.vectorworksarchitect.com
1-888-646-4223

VectorWorks
ARCHITECT
Delivers the promise of Architectural CAD

ARCHITECT



"VectorWorks ARCHITECT is a great program...I am currently getting re-trained in AutoCAD Architectural Desktop Revision 2...and it just doesn't stack up to VectorWorks ARCHITECT." —Edward Koenig, Carmelhill Drafting Studio

Isn't it about time someone addressed the promise of CAD?
Introducing VectorWorks ARCHITECT

Engineered and built by professionals in your discipline, ARCHITECT delivers on the promise of architectural CAD. It does everything CAD was supposed to do but didn't quite. Truly a better way to design, ARCHITECT integrates Design, Production and Project Management into a system that delivers unparalleled productivity—all at a price even the smallest firm can afford.

INTEGRATION

- Complete integration of your 2D plans, 3D models, reports, schedules & client presentations
- Scalable CAD standards make it easy to structure & manage documents

DESIGN

- Unprecedented tools for programming studies and analysis
- Thousands of "Intelligent" building Objects & 2D/3D architectural symbols
- State of the art Solar Animator

PRODUCTIVITY

- An easy system for archiving, placing, & managing notes
- Automatic creation of reports & schedules
- Project Management features including issue management, error & revision control, & workgroup referencing

Special Offer to Readers of ARCHITECTURAL RECORD

Save over $180 by purchasing VectorWorks ARCHITECT direct from Diehl Graphsoft for $1395 or without photorealistic rendering for $1140. Includes FREE Tech Support & a 90-Day Money-Back Guarantee.
*Existing VectorWorks users call for upgrade pricing.

Diehl Graphsoft Inc
Software for Today's Professional

CIRCLE 34 ON INQUIRY CARD

Cornell graphics lab sets high standards for new design technologies

By B.J. Novitski

In the glitzy world of computer-generated visualizations that dominate movies and magazines today, it's easy to take for granted the photographic quality that architects can give renderings of proposed buildings. But behind the scenes, four decades of grueling, dedicated, and inspired research have made possible synthetic images that are almost indistinguishable from photographs. One of the world's leading laboratories in this field is the Program of Computer Graphics (PCG) at Cornell University in Ithaca, N.Y. (www.graphics.cornell.edu). Director Donald P. Greenberg has led the program since its founding in 1974. Greenberg, his staff, and students have developed the theoretical basis for many practical applications that architects now use routinely. For example, research performed at Cornell's PCG led to the development of Lightscape, a rendering program capable of creating very realistic lighting effects by calculating the precise amount of light reflected from surfaces and materials within a scene.

A unique research program

Before leading PCG, Greenberg, who trained in architecture and engineering at Cornell and Columbia universities, was a consulting engineer with Severud Associates, an architecture and engineering firm. There, he worked on the design of the St. Louis Arch, Madison Square Garden, and other projects. During the 1960s, he became intrigued with the design potential of computers, but was impatient with the numeric output provided by engineering applications. His efforts to write software to display results graphically led to the establishment of the multidisciplinary Program of Computer Graphics, with significant funding from the National Science Foundation.

Today, the research center is still funded by the foundation and also by Intel, Hewlett-Packard, and Autodesk. Because PCG is independent from any single academic department, its students and faculty enjoy an unusual opportunity for multidisciplinary research. Most individuals at PCG are from the departments of architecture and computer science. Others come from the fields of engineering, art, perception psychology, and theater arts. This mix results in a rich research environment that values human perception and the aesthetics of light as much as physics and precision computation.

Current PCG research focuses on three major areas: improving user interfaces to make architectural applications more suitable for designers; simulating the behavior of light in space and understanding human visual perception system to refine the rendering algorithms (computational procedures); and developing methods for improving image capture and the quality of image-based rendering. For the architecture profession specifically, PCG is concentrating on developing conceptual design tools that enable architects to design in context and to collaborate over the Internet.

Rethinking the medium

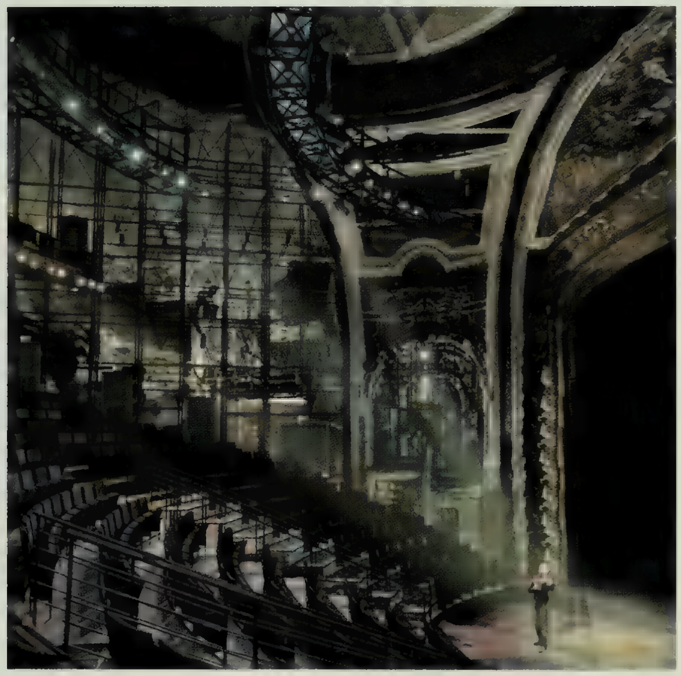
The typical user interface for architectural software, with the familiar mouse and monitor, is badly suited to the "hand-eye collaboration" that characterizes architectural design, Greenberg says. He and visiting professor Moreno Piccolotto are developing a system that works with a drawing-board-size device from Input Technologies in Toronto. The equipment functions as both sketch pad and display device. It consists of a transparent digitizing surface, a cordless pen, and a high-resolution, rear-projection display, driven by a powerful microprocessor (or several working in parallel). Using this device, designers can sketch comfortably with the pen on the large, gently tilted surface. But unlike conventional 2-D paint software, the plane on which the sketch first appears can be rotated and navigated in three dimensions and placed into an underlying 3-D scene. The system also enables two or more designers to work on the same sketch collaboratively on the Internet. This equipment is expensive, about $55,000 per setup, but experiments are under way with $3,000 Wacom tablets and handheld devices such as the PalmPilot.

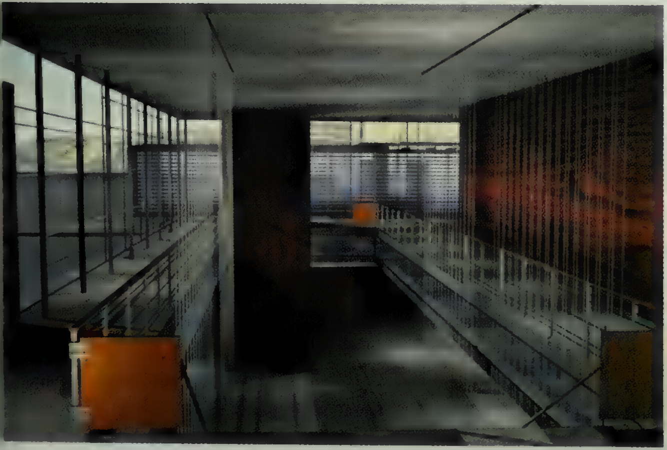
> "It is fascinating to ponder the implications of exponential digital growth. In a world of infinite bandwidth, where processing, storage, and memory are essentially free, what does an architect do? With display devices limited only by our own visual acuity, we can create virtual worlds that are physically accurate and perceptually indistinguishable from real-world scenes. Data for these predictive models, including all geometry, materials, and lighting characteristics, will be easily obtainable over the Internet, provided by manufacturers selling their wares.
>
> "But we still need our design tools—ones that are not restrictive, that are easy to use, very comfortable, and allow me to create. In a sense, I want to go back to where I started, with pen and ink and yellow trace. Where I am free to compose in silence or to classical music or alone with nature in the outdoors. Where I am free and yet connected and able to digitally doodle and sketch. The electronic future may rapidly be approaching the potential of the environments of the past." ***Donald P. Greenberg***

The software used in this system is under development, and is based on work done by Piccolotto with Michael Malone (now a software developer at Autodesk) while they were graduate students at Cornell. The software is unique in its ability to move smoothly between the realms of rough sketch, precision rendering, and real-time walkthroughs. The ability to sketch naturally and create accurate architectural drawings as well as 3-D models connects the art of design directly with the science of architectural evaluation and development. PCG is collaborating on a prototype with a commercial software developer, and plans call for a program to be available for public use in a few years. "We make tools for a profession where the designers already know how to draw, think spatially, conceive of designs in three-space, and have great appreciation for light," Greenberg notes. "If we are successful, the word 'computer' will disappear from our jargon, and we will only be providing, in an electronic way, the opportunity for architects to express their design ideas."

Physics meets art

Greenberg and his colleagues are also studying the behavior of light to improve the algorithms used to generate 3-D renderings. The PCG light-measurement laboratory is one of the best equipped in academia. Just as acoustical engineers may study sound in a theater at a variety of frequencies, researchers here study the physics of light at a variety of wavelengths. No other architectural research lab in the world is studying light at this level of precision. Cornell's lab, under the direction of mechanical engineering professor Kenneth Torrance, has elaborate instrumentation to measure light within physical models as it reflects from surfaces and moves through various media, such as air and glass. These measurements are then compared with the simulated light calculated by existing algorithms. The data is further refined according to the real-world models. As a result, the software's ability to imitate visible reality increases in precision.





"Steel Factory" (opposite, top) is an early complex radiosity image. "The Green Room" (opposite, bottom), from 1993. "Theater in New York City" (above), 1994, combines photos and a ray-traced model. This view of an Indian Culture Museum (left) lets curators see exhibit settings with or without daylight.

Complementing a physicist's approach to this study, the PCG lab also employs perceptual psychologists to determine how and where mathematical improvements in rendering calculations affect the communication of meaningful visual information to the eye and brain. When the improvement in precision is not perceptible, researchers can modify the software to

A digital drafting table allows students to mark up a projected image of a project. The outcome (top) is a projected radiosity solution atop a virtual space.

maximize speed without detracting from the realism of the computer models.

Precision in light simulation, as in the Lightscape software program, is important because it gives credibility to the resulting renderings. For example, if an architect models an interior space that is supposed to be illuminated by a clerestory, a precise rendering will show whether the space does indeed receive enough light with that window configuration and orientation. If the interior looks too dark, the architect using conventional renderers could simply modify the software settings to make the model look brighter. With a physically precise simulation, the architect must adjust the window size, shape, or the position of the glazing or the color or reflectivity of the interior surfaces to improve the quality of light in the space. In other words, the problem won't be solved until the architectural elements are correctly designed.

In conventional rendering packages, light is often simulated by the "ray tracing" method. This works best with direct lighting and highly reflective materials. Another method, "radiosity," works best with indirect lighting and diffuse surfaces. The simulation methods currently under development at Cornell combine the advantages of both ray-tracing and radiosity to produce the most realistic possible rendition of a lighted scene. Even with today's best hardware, these computation-intensive renderings are time-consuming. Given the pace of technology advances in hardware and software, Greenberg and his fellow researchers believe that in just a few years they will be able to generate high-resolution, precisely predictive images at a rate sufficient for real-time animation, that is, 30 frames per second.

From real photograph to synthetic image

A third area of research is in image-based techniques. These techniques are already familiar through currently available technologies. For example, a digital photograph of an object or material can be "texture-mapped" onto the surface of a geometric model, giving the rendering the appearance of realism without requiring much geometric complexity. Another common application is in the animation technology pioneered by Apple Computer with the QuickTime VR format. Using QuickTime VR, several still photos taken at regular intervals for 360 degrees around a stationary viewpoint can be stitched together to create a panorama. Viewers can virtually look around a 360-degree space by moving the mouse. The application is becoming popular for displaying architectural spaces on the Web.

These technologies have their drawbacks. Because QuickTime VR, for instance, samples only a few images, the resulting animation may suffer from geometric distortions or blank spots, or it may fail to capture specular highlights. To surmount these shortcomings, PCG researchers are comparing image-based renderings of scenes with physically accurate images. They are identifying the most important sources of error in image-based rendering and refining algorithms to alleviate problems.

Design studio technology

For the past three years, undergraduate design students in Cornell's architecture department have benefited from the program's technologically rich environment. In the autumn of 1999, for example, students in a third-year design studio used computers to develop projects for an Indian Culture Museum in Chaco Canyon, N.M. To celebrate the many facets of Anasazi, Hopi, and Pueblo cultures, the museum focuses inward on the spaces that exhibit cultural artifacts and outward to the surrounding desert. As in other undergraduate studios, the students studied issues of light, scale, and environment, but the similarity ended there. Although these students had minimal experience with CAD before the semester began, they could exploit it fully to design and present their projects. They created their models of the museum using the Autodesk packages, 3D Studio Viz, and Lightscape. The physically accurate rendering software informed students about such issues as whether their skylights were illuminating the exhibits at the times and in the amounts that the students intended. With software available at PCG, the students placed their models within a photographic, 360-degree panorama of the real site. Thus, any view from inside the model out through a window automatically displayed the correct portion of the surrounding landscape. Also, the ability to apply material textures to the surfaces in their renderings gave an aura of reality that increased students' empathy with the inhabitants in the space. Indeed, the overall effect of the imagery gave much clearer feedback

Prepare for liftoff!

Everything builds to a defining moment. It's the moment when all the elements come together to create the desired effect.

In the design and construction industries, e-IDC.com brings hundreds of separate and distinct professional disciplines together into a centralized network community. A global Internet marketplace where "transactional e-commerce" is conducted instantly — from anywhere in the world.

The defining moment is now. Get on board … or get left behind.

Register to win a Free Palm Pilot at A/E/C Systems 2000 #1663

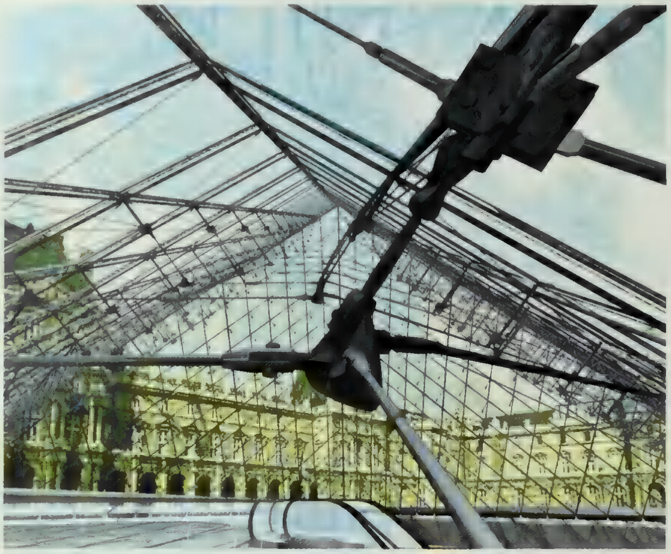
e-idc.com

INTERNATIONAL DESIGN AND CONSTRUCTION ONLINE

The new tool of your trade

CIRCLE 107 ON INQUIRY CARD

Call 1.877.302.5400 or visit www.e-idc.com



"The Pyramid at the Lourve by I.M. Pei," done in 1995, contains 32 million triangles and required 18 hours to compute on eight computer workstations.

than architecture students normally experience. This allowed them to advance more quickly in their design development than is common among third-year students.

According to Piccolotto, who with Greenberg was their studio instructor, the students' success is also attributed to the fact that computer applications are not taught as separate courses, but within the context of design thinking. This provides the motivation to learn the applications quickly and thoroughly, and it teaches them subliminally the importance of taking a designer's approach to using the machines. Piccolotto notes that students are also encouraged to blend traditional, manual media with their computer work whenever it is appropriate or more comfortable, such as with initial idea sketches. He says that the sophisticated technology not only allows the students to present their work interactively, but also enables average students to achieve a much higher level of expression.

During reviews throughout the semester, the students displayed their rendered projects on PCG's nearly room-size display screen. For those sitting at an optimal distance, this screen gives a 120-degree panorama, making the viewer feel virtually immersed in the scene. The triple-wide display from three projectors was particularly effective in portraying the vastness of the Chaco Canyon. Looking at nearly life-size renderings makes it easy for students and teachers to evaluate the designs. Because they work with the most advanced possible technologies, Cornell students are getting an education on systems they can expect to work with in a few years. Many of today's technologies will be obsolete by then. "We have always emphasized the teaching of concepts so that the students can ride the technological wave and never be outdated," Greenberg say.

Looking ahead

Indeed, PCG's work is characterized by a forward-looking philosophy. "We are creating the user interfaces for tomorrow's technologies," Greenberg explains, "knowing with great confidence what will be available three years from now. We can demonstrate to the profession how their design tools might change over the next decade. Perhaps this is the most appropriate role that a research university can play, and we have been fortunate in being able to combine both the computer science and architecture professions in one interdisciplinary laboratory." Their combination of interface design, research into the physics of light, and pedagogical work demonstrates the balance with which Cornell is approaching architectural applications. PCG is improving the fit between traditional processes and new technologies. ■

Cornell's Long Arm of Influence

Many students who trained at Cornell early in the history of CAD have gone on to create software that has greatly influenced the architecture profession. In addition to research that led to the widely used Lightscape rendering software, the program's graduates are leaders in developing 3-D modelers.

Four Cornell alumni created Wavefront, now available from Alias Wavefront, a Silicon Graphics subsidiary. John Pittman led development work at Hellmuth, Obata & Kassabaum to create a pioneering, in-house system of design and drafting software, some of which is still in use. Many of the key innovators at Autodesk, including Kevin Weiler and Carl Bass, came out of Cornell's program.

One of the leaders in CAD development at Skidmore, Owings & Merrill was Nicholas Weingarten, also from Cornell. He now works at J.D. Edwards in Chicago on "CustomWorks," a system for configuring made- and engineered-to-order products. They have modeled everything from custom windows to entire houses for a modular home builder.

Weingarten studied under Greenberg in the 1970s, during the early days of computer graphics research. Long before most architects had heard of computers, Greenberg's team was borrowing technology from the aerospace industry. Although primitive by today's standards and difficult to use, these early computers were put to work generating architectural images and, more important, the underlying algorithms. The Cornell group created an animation of their campus; its 1974 publication in *Scientific American* helped popularize computer graphics for architectural applications.

Weingarten credits Greenberg with fueling a keen curiosity about the science behind computer graphics. Greenberg also created an environment for fostering an architectural problem-solving approach and a designer's eye for the quality and usefulness of the resulting imagery. "Greenberg pursues things from the aesthetic side. That's why his passion for rendering the beauty of the real world is so keen. He has combined that passion with a deep understanding of both math and physics," Weingarten says.

During his time at Cornell, Weingarten witnessed the evolution of animation, the use of 3-D topological maps for resource analysis, the development of innovative structural analysis of inflatables and large-scale domes, and the graphing of energy flows through buildings.

After graduation, Weingarten took his experience in structural analysis and visual simulations to SOM, where he joined Doug Stoker's computer group that created the 3-D design system that later became IBM AES. This software, used extensively for production at SOM, was developed to design high-rise buildings, and it integrates the disciplines of architecture and engineering. Although AES was never widely used in this country, it was influential in establishing a high standard for the potential of architectural software. Its creators have gone on to become leaders in software development today. *B.J.N.*

Determination

SmartAge.com℠

Few people would have the guts to walk away from a successful career as an Executive Chef, to start their own business selling recipes over the Internet. But then again, few people can make a Pineapple Upside Down Cake this good.

SmartAge.com℠ is the place for small business eCommerce on the Web, so you'll be attracting new customers in no time. We've already helped over a million small businesses make money on the Web. We can help yours, too. No matter what kind of small business you've cooked up. SmartAge.com: Smart commerce for small business.

To boost your small business presence online, call one of our Internet consultants at 1-877-904-1887.

©2000 SmartAge Corp. All rights reserved.

It's big. It's clumsy. And it's not too bright.

Sound like your architectural software?

You can continue plodding along with your current CAD software, or you can make the smart move to ArchiCAD. It can be mastered surprisingly fast, and only ArchiCAD has been designed specifically for architects. Really, isn't it time you raised your standards and let go of the past? Embrace the intelligent and integrated approach to building design and documentation.

SEVEN REASONS TO SWITCH

- Intuitive commands easy to master
- Fully AutoCAD compatible
- Remarkable efficiency gains and ROI
- Cutting edge presentation features
- Fully parametric objects
- Time-saving automatic documentation
- 30-day money back guarantee

GRAPHISOFT

Graphisoft and ArchiCAD are registered trademarks of Graphisoft R&D Rt.

ArchiCAD

www.graphisoft.com/ArchiCAD 800.344.3468
Visit or call for a FREE Presentation CD and the location of an ArchiCAD dealer near you.

CIRCLE 41 ON INQUIRY CARD

AEC Systems 2000 takes architects for a ride

By B.J. Novitski

What a difference a year makes in the fast-paced world of the Internet! The AEC Systems show, the annual progress gauge for computer technology in the construction industry, demonstrates this month that the Web is entrenched in professional practice like never before. As the commercial exhibits and educational sessions at this 20-year-old trade show attest, Web tools have evolved from the somewhat detached information resources of a few years ago to key components of the everyday software that architects depend on. And, as always, the show is center stage for new developments in CAD software.

Project extranets boom

One of the most dramatic developments for the AEC industry within the past year is the growth and success of project collaboration systems, or extranets, that use Internet-related technologies. These allow project teams to share documents and messages without the inefficiencies of using paper or traveling to job sites. Two years ago, extranets were virtually unheard of. Last summer there were about 30 companies providing them; now there are more than 100.

Close to 90 percent of the exhibitors are demonstrating Internet-related products. Most of the show's educational sessions are also geared toward Web technologies. These include hands-on workshops where participants learn how to design Web sites and use project collaboration systems.

"A Day in the Life of a Project," which premiered last year, is greatly expanded this year. These 45-minute demonstrations reenact the activities of real architects, engineers, owners, and builders as they solve the day-to-day problems normally encountered during design and construction. Among others, the Jerde Partnership, architects in Venice, Calif., and the Boyer Company, real-estate developers in Salt Lake City, will highlight their work on the mixed-use 2002 Gateway Olympic project using project collaboration software from Cubus Corporation.

The mixed-use 2002 Gateway Olympic project, by the Jerde Partnership and the Boyer Company, uses project collaboration software from Cubus Corporation.

As project extranets mature, producers are developing ways to differentiate their systems and increase their value. Bricsnet, for example, is launching international versions of its ProjectCenter in five languages. MP Interactive, maker of e-Builder, one of the oldest collaboration networks, recently introduced "Constructor Cam," a construction-industry Web camera that captures on video problems found in the field. Footage is transmitted to the office for study via the Internet.

Other project extranet providers, including MP Interactive and Framework Technologies, are streamlining the process of managing multiple projects. They are also making their systems more useful in the request-for-information (RFI) process. Framework's ActiveProject, for instance, now has enhanced E-mail functions that automatically alert team members to problems and link them to the Web page.

Project extranet providers recognize that "full service" means providing in-depth information to architects. So in addition to offering a private, electronic meeting place for teams to work together, they are also building portals to the larger world of building product manufacturer data, construction market information, and magazine-type feature articles. Bidcom's new e-Marketplace offers news services as well as data and support for project leads, cost estimating, product specifying, and facilities management.

New project extranet companies are appearing seemingly overnight. Logic, a Voa Company, is premiering its Falcon Central Depository system, with an emphasis on easy access to administrative data. Sigma Design has introduced EZ, simplifying collaborative redlining. And Buzzsaw.com, an Autodesk spin-off, is shaking the industry with its free-subscription pricing model. Furthermore, project management systems intended for internal use, such as Deltek Systems' new Project Workplace, are taking on many of the features of project extranets. By structuring E-mail into discussion threads, Project Workplace supports a network-based team approach to the use of client, business, and "knowledge-management" data.

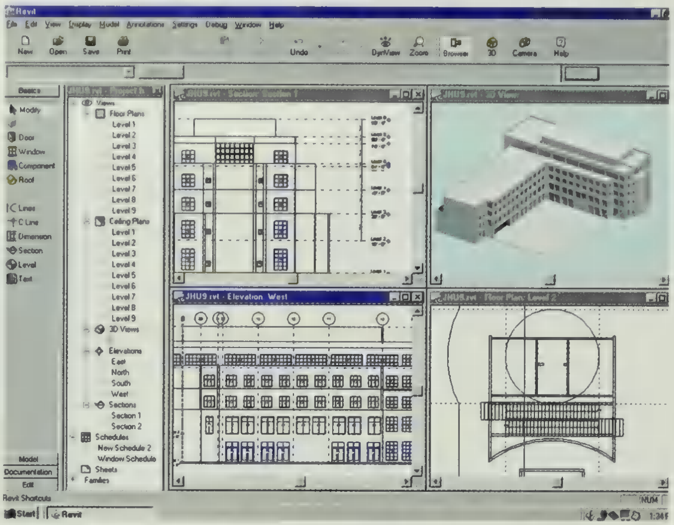
One reason the AEC industry is adopting this new medium may be that, unlike manufacturing, the focus of architecture and engineering is communication. Messages, drawings, and other documents can be readily converted to bits and shared electronically. Now, however, even the construction team is finding ways to use the Internet to improve their business-to-business dealings. Building SupplyNet and digitalEPC.com are the setting for the auction or exchange of surplus construction equipment and supplies for builders and facilities managers. In the past, the difficulty of matching sellers to buyers meant a huge, unnecessary cost during construction and building operations. This creative approach brings a global solution to what has traditionally been considered a local problem.

The ubiquitous Internet

Creativity is also evident in the way that Internet technologies have been adapted to long-standing applications developed for a variety of architectural business purposes. For example, ARCOM, maker of the AIA-endorsed MASTERSPEC specification system, now improves its ability to assist architects' decision-making processes through online access to supporting documents in the Internet's HTML format and through links to building product manufacturer's data on the Web.

Another example is Sema4, a veteran financial/project management application from Semaphore. This software tracks budgets for architectural project managers. The new Sema4 Online Signals module extends this capability by proactively sending E-mail alerts to key personnel at specified milestones. For instance, it can monitor a project's expenditures, compare them with the time remaining to completion, and notify the principal in charge when a phase falls behind budget.

Similarly, Welcom, maker of the financial project management software Open Plan, introduces an Internet component to enhance its collaborative capabilities. The new WelcomHome can be customized to structure management data according to a firm's "best practices," thereby improving the consistency in how projects are managed throughout the firm. It uses E-mail and Web models to organize discussions and centralize data for improved collaboration within distributed teams.



Revit's new parametric 3-D building modeler allows architects to work in any view—all 2-D drawings are simply different views of the same model, guaranteeing internal consistency automatically.

Another administrative software system that taps the power of the Internet is the marketing application RFP GenTrak. This software maintains a database of client information, tracks pending business opportunities, and facilitates the preparation of proposals, including SF255/254 government submittals. The new RFP Web interface extends the power and flexibility of the system, giving access to the centralized RFP database via an Internet or intranet connection. This makes a corporate marketing database accessible to anyone in the organization, including those working at home or traveling, from wherever there is Internet access.

CAD marches on

Despite the unprecedented attention to Internet-inspired technology improvements, there has also been considerable activity on the CAD front. This spring a number of European companies are making aggressive inroads into the North American markets via acquisitions. Bricsnet launched the AutoCAD-compatible IntelliCAD 2000, which it has taken over from the Visio division of Microsoft. Nemetschek, maker of the German best seller AllPlan, has purchased Diehl Graphsoft, maker of the popular VectorWorks (formerly MiniCAD). And Graphisoft, creator of ArchiCAD, has purchased Drawbase, a computer-aided facilities management application. These European companies are all known for their object-based CAD systems, in which graphic elements on the computer screen are associated with a database of characteristics such as size, materials, fire rating, and so on. Perhaps, out of frustration with the slow adoption of object-based technologies in the U.S., these companies are seeking alternative strategies for promoting their acceptance through association with these well-established American systems.

One notable exception to the acquisitions trend is the newest CAD contender, Revit Technologies. This new company's product, Revit, is a parametric 3-D building modeler. It is the architectural profession's equivalent to the "intelligent" modelers used by automotive manufacturers, according to its makers. By specifying design intent architects have greater control over the model as it changes and develops. For example, if the windows in a facade are set to be of equal width, they will automatically expand or contract to remain equal whenever the wall in which they are embedded is lengthened or shortened. Furthermore, the model "understands" the relationships between building components: For instance, a roof is automatically reshaped when the wall below it is moved.

The model under development is always three-dimensional, even when the architect is working on a 2-D view, so rendered perspectives are always just a click away. And because all 2-D drawings are simply different views of the same model, internal consistency is automatically guaranteed.

Unlike other modelers that perform similar functions, Revit purports to work with a simplicity that makes it as usable for senior designers as for their more CAD-savvy juniors. To make the new software still more accessible, the company offers it on a monthly subscription that includes all upgrades, support, and training. A hands-on demonstration area available at the AEC Systems show provided more information for anyone curious about Revit's operation.

The show evolves

Ironically, the emphasis on virtual communications has changed the nature of the show. Technology companies are learning they can get their message to potential customers less expensively through their Web sites than at a three-day meeting. Some historically major supporters, such as Intergraph and Autodesk, have reduced their participation, sparking speculation about a domino effect on future events. But, as this year's show makes clear, future change doesn't mean the message has become less important. Rather, technology firms are inventing more innovative ways of reaching their audience. ■

WWW *For a list of notable AEC Systems exhibitors, go to* ***Digital Architect*** *at:* **www.architecturalrecord.com**

»DESIGN
»ANALYSIS »PROJECT COLLABORATION
»BUILDING PRODUCT INFORMATION
»BIDDING & PROCUREMENT
»CONSTRUCTION »PROFESSIONAL FORUMS
»E-STORE »NEWS AND INFORMATION
»FACILITIES MANAGEMENT »PERSONALIZED CONTENT

The place for projects.

Smarter.

Faster.

More Profitable.

bricsnet.com

THE E-MARKETPLACE FOR THE *global building industry.*

CIRCLE 24 ON INQUIRY CARD

Search ing for the answer

Identify and compare products the simple way – the c-z.com marketplace.

www.c-z.com

CIRCLE 25 ON INQUIRY CARD

Software Reviews

New products and some old favorites

By Jerry Laiserin, FAIA

Sticks and stones

Digital Entourage, Tom Retnauer, AIA

One of those truly original, "Why didn't I think of that?" kinds of products, Digital Entourage provides invaluable libraries of CAD blocks and textures that represent licensed images of real, commercial products and materials in the architect's palette. The realism of any rendered image depends on the accuracy of these textures, surfaces, and objects. Even one false note can spoil the illusion of an otherwise plausible rendering. Many vendors offer libraries, usually on CD-ROM, of scanned or rendered textures and materials, as well as 3-D blocks or meshes, representing automobiles, furniture, or people. Most of these rely on generic textures and colors, however.

Retnauer's collection of blocks and textures is available on CD-ROM and the Web. It includes representations of materials from Wilsonart, Armstrong, Owens Corning, Cultured Stone, and others. Future versions will incorporate greater selections that will be periodically updated. For design studies and client presentations, Digital Entourage is an indispensable addition to any architect's palette of rendering tools.

System requirements: Windows PC with CD-ROM drive.

Contact: Tom Retnauer, AIA, 503 Landmark Court, Chesapeake, Va. 23322; 757/436-2629; www.digitalentourage.com.

Contributing Editor Jerry Laiserin, FAIA, *develops collaborative strategies for architects and their technology providers.*

A new favorite

AccuRender3, Robert McNeel & Associates

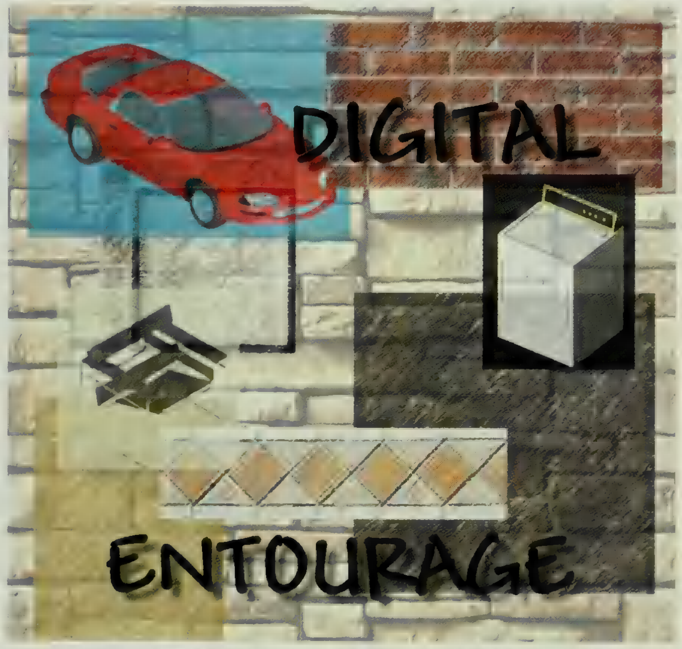
The latest version of longtime rendering favorite AccuRender, version 3, runs on any CAD-capable PC. High-quality, photorealistic rendering software used to require expensive hardware and was expensive, difficult to learn, and laborious to use. Increased demand and the dominance of Microsoft's Windows operating system have slashed the cost of PC hardware and made software easier to use. AccuRender3 is a prime example of this evolution.

Like its closest competitor, Lightscape ["Software Reviews," December 1999, page 43], AccuRender3 is capable of accurate rendition of lighting effects in a space or around an object, using complex light-analysis techniques called ray tracing and radiosity. Version 3 was developed as a plug-in to AutoCAD, making it more interactive; however, it is limited just to rendering AutoCAD models. AccuRender3 also is available as an embedded rendering tool in Revit, a new CAD program.

When installed with AutoCAD (or within Revit), AccuRender3 appears on the CAD program menu as just another integrated tool, making it easier to learn and handy to use. It works with included or third-party libraries of material textures and light sources. Any AutoCAD-using architect interested in quality rendering will find AccuRender3 to be a valuable add-on.

System requirements: Pentium, 64MB RAM, Windows95/98/NT4.0, XGA graphics (OpenGL graphics accelerator preferred).

Contact: Robert McNeel & Associates, 3670 Woodland Park Ave. N, Seattle, Wash. 98103; 206/545-7000; www.accurender.com



Developed by architect Tom Retnauer, this library of CAD blocks and textures features accurate textures, colors, and surfaces.

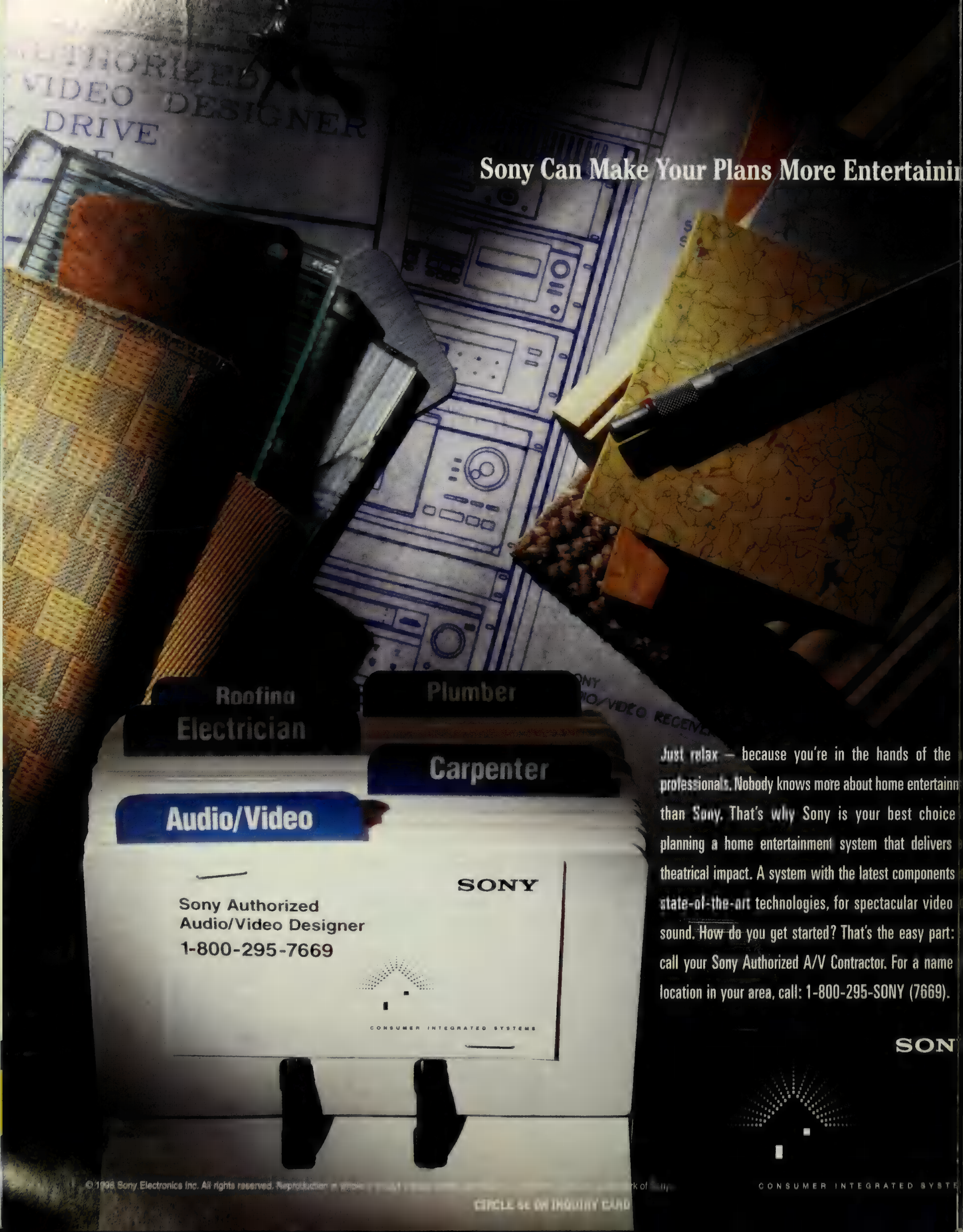
Monitors progress

ViewSonic VP181 LCD Display, ViewSonic Corp.

A big, bright, sensuously sharp computer monitor, the ViewSonic VP181 features a liquid crystal display (LCD) and includes connections for the latest multimedia technologies. Cathode ray tube (CRT) technology has made enormous strides in screen size, shape, and color rendition since those small, circular, green screen days of early CAD. But it still falls short of the ideal.

Most CRT monitors still have slightly spherical or cylindrical faces, which produce geometric distortion in the corners. CRTs are also subject to glare, give off heat and potentially harmful electromagnetic radiation, and are prone to drifting out of spec. LCD monitors, on the other hand, have perfectly flat screens and avoid most of the other drawbacks of CRTs. ViewSonic, a leading manufacturer of both CRT and LCD monitors, has upped the ante by endowing its new LCD line with multiple inputs for almost any video or computer source.

The VP181 has an 18.1-inch viewable display (comparable to most 19-inch CRTs) with up to 1600 by 1200 screen resolution. It sports a wide viewing angle (160 degrees) and a high contrast ratio (300:1),



Sony Can Make Your Plans More Entertainin

Just relax — because you're in the hands of the professionals. Nobody knows more about home entertainn than Sony. That's why Sony is your best choice planning a home entertainment system that delivers theatrical impact. A system with the latest components state-of-the-art technologies, for spectacular video sound. How do you get started? That's the easy part: call your Sony Authorized A/V Contractor. For a name location in your area, call: 1-800-295-SONY (7669).

SON

CONSUMER INTEGRATED SYSTE

© 1996 Sony Electronics Inc. All rights reserved. Reproduction [illegible] rk of Sony.

CIRCLE [illegible] ON INQUIRY CARD

outstanding in areas of traditional weakness for LCDs. In addition to audio inputs and built-in speakers, the VP181 handles virtually any analog, digital, or composite video signal. The detachable base and monitor head can each serve as a hub for other peripheral devices conforming to the new universal serial bus (USB) connector standard. With automatic color balancing and screen-to-print color matching, the VP181's image performance is spectacular. From direct video inputs, it displays an almost grainless texture, comparable to slow-emulsion 35mm film, and a stunning resolution of fine detail.

Viewsonic's new LCD monitor features a sharp, detailed image.

All this perfection is not cheap. The VP181 is about three times the price of a comparably sized CRT. Architects doing extensive multimedia work or photorealistic visualizations, however, owe it to themselves (and to their eyes) to give this monitor a serious look.
System requirements: Any Windows or Macintosh computer.
Contact: ViewSonic Corp., 381 Brea Canyon Road, Walnut, Calif. 91789; 800/888-8583; www.viewsonic.com

No more stuffy PCs
NetVista X40 Computer, IBM

The new NetVista product line from IBM offers a stylish replacement for the stuffy PC. Since the first personal computers appeared on office desktops 20 years ago, the machines and their enclosures have grown more complex. The central processing unit, in its putty-colored box, occupies as much as three square feet of desk space, while the keyboard and mousing area eat up two more square feet. The melange is topped off by a hulking display that attracts dust and glare. And don't forget the knots of wires and cables!

PCs don't have to look this way. Miniaturization and standardization of internal components now allow for streamlined, all-in-one enclosures. Apple led the way with its fruit-colored iMac, followed by Compaq, Dell, and others. Now IBM's NetVista all-in-one X40, in sleek, architectural black, consumes 75 percent less desk space than a traditional PC.

NetVista's beauty includes such built-in features as local area network connections; the latest universal serial bus ports for add-ons, such as scanners, cameras, or DVDs; capacious hard-disk drives and random access memory; and a choice of Windows98, NT4.0, or 2000. The 15-inch flat panel display provides as much screen space as a conventional 16- or 17-inch monitor and offers a bright, sharp image.

NetVista's compact all-black form takes up little desk space.

While not suitable for intensive, all-day CAD work, IBM's NetVista X40 deserves a place on the desk of any design principal, architectural manager, or marketer.
Contact: IBM, 1133 Westchester Ave., White Plains, N.Y. 10604; 800/426-7255; www.ibm.com

If you envision the beauty of patina in 25 years, EverGreen® has it today.

Pre-patinated copper by Revere: Proven across America.

With Revere *EverGreen* pre-patinated architectural copper, you can visualize the warm elegance of patina – and realize it immediately. Wherever your imagination takes you, from rooftops to vertical applications, *EverGreen* adds distinctive character and charm.

Quickly matures after atmospheric exposure. Don't wait any longer; call for details today.

Revere Copper Products, Inc.
One Revere Park
Rome, NY 13440-5561
800-448-1776
Fax: 315-338-2105
www.reverecopper.com

EverGreen is a registered trademark of Revere Copper Products, Inc.

CIRCLE 104 ON INQUIRY CARD

Now there's a place to go for construction professionals to streamline the design process

construction.com

The site where Sweet's BuyLine® integrates to the MASTERSPEC® Solution for instant access to RFIs and RFPs.

The most comprehensive and widely used master specification product, MASTERSPEC is now integrated with the number one reference source for architects, engineers, contractors, subcontractors and owners, SWEET'S, to give you:

- Instant access to detailed product information
- Identification of appropriate product representation by region
- Ability to send electronic RFI/RFPs to ensure accuracy and timeliness

Now you can quickly move from product selection to product specifications to request for proposals, connecting with all the best people and products along the way.

www.construction.com

McGraw-Hill Construction Information Group

F.W.DODGE ARCHITECTURAL RECORD Sweet's Group ENR Design•Build

CIRCLE 31 ON INQUIRY CARD

Divisions of The McGraw-Hill Companies

Software Reviews

Model behavior

NavisWorks, LightWork Design Ltd.

By providing a unique means of assembling, sharing, and comparing 3-D model files, NavisWorks offers architects, planners, and clients a cost-effective new channel for design communication.

Large files, such as 3-D cityscapes, slow most systems to an infuriating crawl. NavisWorks pieces together models and site backgrounds from AutoCAD, 3Dstudio, Microstation, and any DXF-compatible CAD program, and integrates them into a single model. This model is optimized to display only the detail and extent necessary for a specific view or need. This ability makes the NavisWorks model files manageable.

NavisWorks is available in three levels of functionality: a Roamer, a viewer for prepublished NavisWorks models; a Publisher, which assembles and optimizes NavisWorks models from other CAD files; and a Clash Detective, the U.K. equivalent of what American architects and engineers would call an interference checker.

This last capability is especially valuable on large models with complex geometry, such as sports stadiums, airport ticketing halls, or manufacturing plants. NavisWorks models work like 3-D E-mail, allowing reviewers to send one other specific views for discussion or analysis.

On an urban scale, for example, model scenes show how proposed buildings might interfere with valuable view corridors or sunlight exposures. Any analysis that can benefit from sharing a look at a large 3-D model will benefit from NavisWorks.

System requirements: Any Windows PC. NavisWorks will, however, display more detail and smoother movement of models on PCs with faster CPUs, more RAM, and graphics accelerators such as OpenGL.

Contact: LightWork Design Ltd, Rutledge House, 78 Clarkehouse Road, Sheffield S10 2LJ, U.K.; 44/114-266-8404; www.lightwork.co.uk

Rainbow printer

Phaser 750, Xerox Corporation

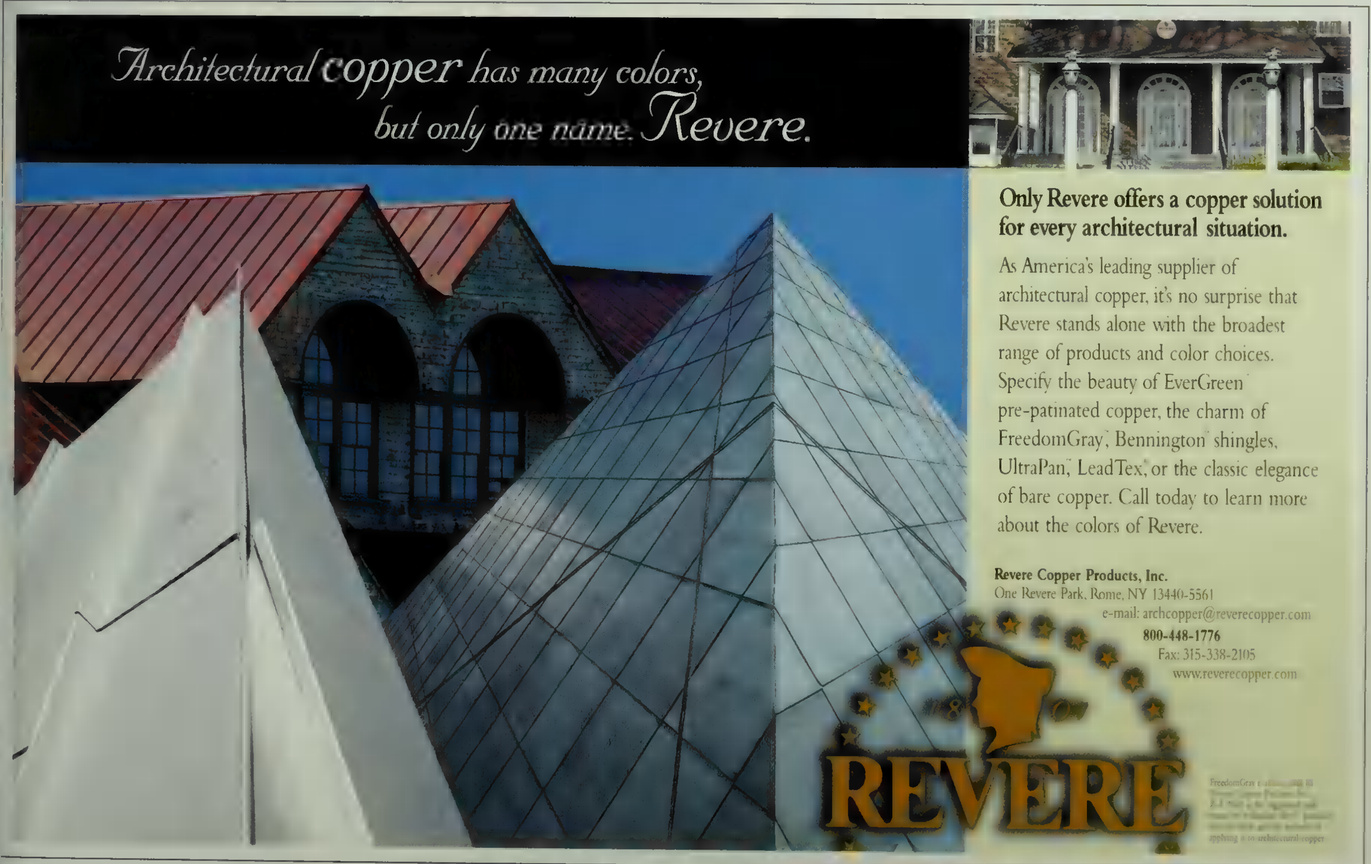
The newest addition to a long and distinguished line of color output devices, the Phaser 750 color laser printer delivers some of the fastest, sharpest, and most affordable color printing on the market. The Phaser brand is well established as a market leader and technical innovator in color printing, in both solid ink and laser formats.

Of special interest to architects is the use of RGB color tables to match the screen default of PC displays. Most color printers use the CMYK color tables (also available on the new 750) that are best suited to pre-press applications in graphic arts. Unlike graphic artists, however, architects typically want to print just one or a few copies. As a result, they are easily frustrated if the printed output doesn't match the colors displayed on their computer screen. The Phaser 750 can also handle the kind of heavy paper stock, up to 40 pounds, preferred by many architects for printed presentations. This heavier stock is beyond the reach of low-cost ink-jet competitors. As a result, the image quality on glossy coated paper approaches that of direct photographic prints. With 1200 by 1200 resolution, built-in local area network (LAN) and Internet connectivity, affordable cost per image, and an extended duty cycle, the Xerox Phaser 750 is a worthwhile addition to any architectural studio.

System requirements: 10/100BaseT network connection; or USB or parallel PC connection.

Contact: Xerox Corp., 2660 SW Parkway, Wilsonville, Ore. 97070; 800/835-6100; www.xerox.com

WWW *To find more software reviews, go to* **Digital Architect** *at:* ***www.architecturalrecord.com***



Architectural copper has many colors, but only one name. Revere.

Only Revere offers a copper solution for every architectural situation.

As America's leading supplier of architectural copper, it's no surprise that Revere stands alone with the broadest range of products and color choices. Specify the beauty of EverGreen pre-patinated copper, the charm of FreedomGray, Bennington shingles, UltraPan, LeadTex, or the classic elegance of bare copper. Call today to learn more about the colors of Revere.

Revere Copper Products, Inc.
One Revere Park, Rome, NY 13440-5561
e-mail: archcopper@reverecopper.com
800-448-1776
Fax: 315-338-2105
www.reverecopper.com

REVERE

CIRCLE 83 ON INQUIRY CARD

inspired by life.
GET THE KIT & GO PLACES!
FLEXCO
FLEXCO

Come and see us at:
NEOCON Chicago
8th floor, Booth No. H318

a designer's dream.

Why should resilient flooring choices limit your imagination? At Marley Flexco we help make your dreams come to life with flooring products that let you express fully your inspiration. The wood, marble, and stone designs of our Premium Vinyl Collection are so real, they're unreal – yet so simple to design with. Plus, even more possibilities emerge from a full line of vibrant new colors inspired by life.

We've put it all together in the Premium Collection kit to make it simple for you – it's a designer's dream come true.

MARLEY FLEXCO
The Standard in Resilient Flooring Systems
CIRCLE 51 ON INQUIRY CARD

1.800.633.3151 • 1.800.346.9075 fax • www.marleyflexco.com

an Etex GROUP company

New Products

A good time to check out the innovative styles of one of the most durable members of the office, the commercial carpet underfoot, is during NeoCon, held June 12-14 in Chicago. NeoCon is also the place to find what's hot right now in office furniture solutions; several office products are featured in this month's Product Briefs. Rita F. Catinella

NEW PRODUCTS, CENTER, AND ENVIRONMENTAL AWARD FOR CARPET COMPANY

The Council on Economic Priorities, a research organization focused on corporate social responsibility, will recognize the winners of the 14th Annual Corporate Conscience Awards at a ceremony at the New York Marriot Marquis on June 15, 2000. Collins & Aikman Floorcoverings Inc. (C&A) was one of the three U.S. companies selected for their commitment to environmental protection. C&A was cited by the council because the company developed "the first fully recyclable carpet" and encourages customers to bring in their old carpeting (regardless of manufacturer) to create new carpet from old. "This practice has kept one million pounds of used floor covering out of landfills, and eliminated the company's need for raw production material," according to the council. The company was also noted for its "peel-and-stick" backing, which eliminates a noxious "off-gassing" that was a by-product caused by the application of wet adhesives.

New to C&A's product line is Habitat (top), a solution-dyed, 6,6 nylon fiber system with reclaimed content ranging from 82 to 98 percent and C&A's 100 percent recycled content ER3 backing. In addition, claims C&A, Habitat is the only high-performance commercial carpet that is fully recyclable as well as the only one with such a high percentage of recycled content. Visually reminiscent of the lines raked in the sand of a Japanese temple garden, Habitat is designed to be quarter-turned and features thick and thin fine stripes.

Repeat, Habitat's fiber system, is composed of reclaimed content manufactured from waste generated from various fiber production processes such as process deviations, product changes, and color transitions as well as other industry sources. Special equipment and processing technology is employed to produce fiber from the reclaimed nylon waste.

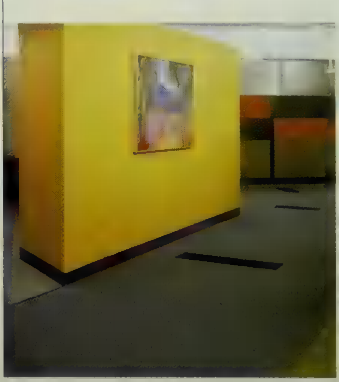
Collins and Aikman's new 100,000-square-foot Center for Environmental Innovation (above, bottom) will serve as a support processing facility for the company's carpet recycling business, and research and design initiatives. C&A's technical staff will relocate to the new building. 706/259-9711. Collins & Aikman, Dalton, Ga. **CIRCLE 200**

EARTH SQUARE PROGRAM CLEANS AND REDESIGNS MODULAR CARPET, SAVING IT FROM THE LANDFILL

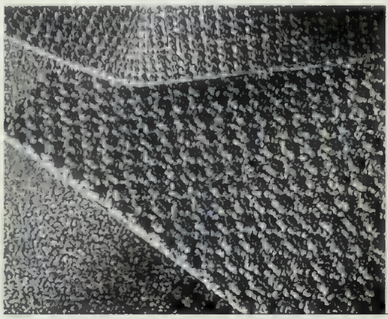
Milliken Carpet developed the Earth Square renewable carpet program to give designers working on large renovation projects an alternative to disposing old carpet in landfills. Milliken claims this offers a savings of approximately 50 percent compared to the cost of new modular carpet. The three-step closed loop recovery process supercleans, retextures, and updates designs on used modular carpet for commercial customers, extending product life cycles while saving resources associated with replacing or recycling carpet. An old carpet tile, (bottom carpet above) can be turned into an entirely different-looking product after the Earth Square renewal (top carpet above). The program offers three ways to participate: renew carpet taken from another facility in the organization; purchase carpet stored and waiting for renewal; or incorporate the removal, renewal, and re-installation of the same carpet into the carpet schedule. The program has been awarded the first Evergreen Award from the U.S. General Services Administration. 800/241-4826. Milliken Carpet, LaGrange, Ga. **CIRCLE 201**

SILICON VALLEY OFFICE AMONG INTERIORS RECOGNIZED FOR COMMERCIAL CARPET APPLICATION

The DuPont Antron Design Award, an annual competition for architects and interior designers in the U.S. and Canada, honors the innovative use of carpet in commercial interiors. This year's grand prize was awarded to Minneapolis-based interior design and architecture firm Partners & Sirny Architects and brand identity firm Duffy Design for their use of Lees carpet in the renovation and design of the Italian eatery, Zelo. The Large Office category merit winner, Reel Grobman and Associates was recognized for its design of a two-building campus for the Philips Silicon Valley Center (shown). The design team used carpet from Atlas Carpet Mills and Monterey Carpets to create colorful backdrops while assisting employees with floor identification. 800/458-4329. DuPont Antron, Atlanta. **CIRCLE 202**



New Products



▼ Points of light

Alpha, Celestial, Equinox, and Pulsar are four new textured loop patterned carpets from Lotus/Peerless featuring color yarn accents on a multicolored field. Crafted of DuPont Antron Lumena solution-dyed nylon in a durable 1/10 gauge construction, each carpet comes in up to 28 colorways, depending on style. Available in 12-foot widths, each features a 10-year limited wear warranty. 800/451-1250. Lotus/Peerless, Adairsville, Ga. **CIRCLE 203**

► Spiral design broadloom

At NeoCon 2000 Mannington Commercial will introduce Gyro broadloom carpet, a versatile spiral design constructed of 100 percent DuPont Antron Legacy nylon. Gyro comes in 16 colorways. 800/241-2262. Mannington Commercial, Calhoun, Ga. **CIRCLE 204**

► Corporate direction

Prince Street's Modern Office (top) has a complex finish combining varying sizes of loops with a subtle shearing. Each of the nine colorways is a mingling of warm and cool neutrals with a distinctive accent or two. Joining Modern Office is Bentley Mill's new carpet, Streatley Road (below), which features six rich colorways. Multiwidth bands of color extend through this plush, 34-ounce, 1/10 gauge, tufted cut pile. This yarn dye product is manufactured using DuPont Antron legacy. Streatley Road is born of the synergy from Bentley's Product Development Department and Suzanne Tick and Terry Mowers of Tuva Looms. 800/336-0225. Interface Americas Inc., Atlanta, Ga. **CIRCLE 205**

▲ Emerald styles

The Celtic Collection of patterned broadloom products by Lees is influenced by designer Clodagh's Irish background. Lees' TriAx tufting technology enables the faithful translation of Clodagh's inspiration in color, design, and texture to be precisely "drawn" on carpet. These 5/64-inch gauge, 28-ounce face weight loop products are constructed of DuPont Legacy nylon and are available in 16 running line colors. The patterns are inspired by geometric and organic themes: Kinsale features finely etched lines of color, defining the random squares of ancient mosaic tiles; Kerry is inspired by the rippling surface of a lake. 336/379-2000. Lees, a division of Burlington Industries Inc., Greensboro, N.C. **CIRCLE 206**

► Reclaimed yarns

Building upon its book ends corporate collection, Shaw Contract is featuring 27 new hospitality styles. Book ends hospitality products (Pavo style shown) feature a tight, precision-tufted fabric of continuous filament Eco Solution Q yarn, a reclaimed fiber containing post-industrial and consumer waste. Solution-dyed, the fiber is engineered to be colorfast, easily maintained and resistant to bleach. 800/342-7429. Shaw Contract, Dalton, Ga. **CIRCLE 207**

▼ Greek influence

BOLYU Contract introduces the Panhellenic Collection, featuring Thessaly, an interloop pattern with soft muted colors and rich texture. The collection is inspired by the ancient tapestries and fabrics of classical Greece, and is crafted of 28-ounce piece-dyed DuPont Legacy nylon in up to 16 coordinating colorways. BOLYU is part of Beaulieu Commercial, which includes the Lotus/Peerless, Consort, and Cambridge carpet lines. 800/451-1240. BOLYU Contract, Adairsville, Ga. **CIRCLE 208**

PAREXEIFS

EXTERIOR INSULATION AND FINISH SYSTEM

We have the System you need.

If you need a secondary moisture barrier...

YOU NEED KEYCOAT

New Liquid Membrane Adhesive 395A

A proven 100% acrylic water resistant membrane **plus** an EPS adhesive in a single coat.

PAREX®

800-537-2739 PAREX Inc. Headquarters: 1870 Stone Mountain-Lithonia Rd, Redan, GA 30074
800-780-6953 Western Region: 11290 South Vallejo Court, French Camp, CA 95231
www.parex.com
CIRCLE 58 ON INQUIRY CARD

100%
ACRYLIC
POLYMERS

MEMBER OF
EIMA

Building On Generations Of Experienc

We're committed to the future! At EAGLE Window & Door we continue to offer a rich heritage of superior craftsmanship. Many of our employees are second- or third- generation window crafters, and remain the strength and heart of our business. That's why we're reinvesting in our community by building a new, state-of-the-art manufacturing facility. From the oldest, continually-operated window and door facility in the country (circa 1860's) to the newest, EAGLE is dedicated to carrying on a long-standing tradition. Isn't it time you experience a legacy in the making!

EAGLE WINDOWS · DOORS

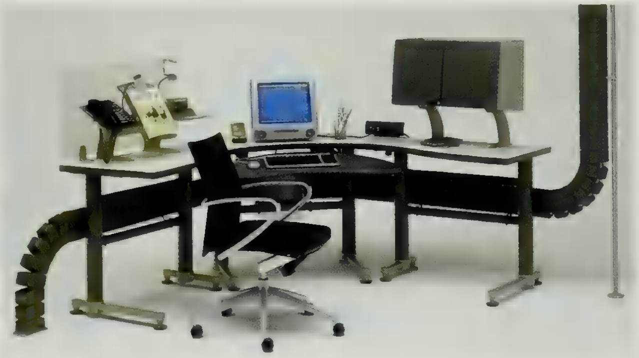
For information about EAGLE, call (800)453-3633 or visit our website at www.eaglewindow.com.

© 2000 EAGLE Window & Door, Inc. - Dubuque, Iowa
An American Architectural Products Corp. Company

CIRCLE 36 ON INQUIRY CARD

Products Briefs

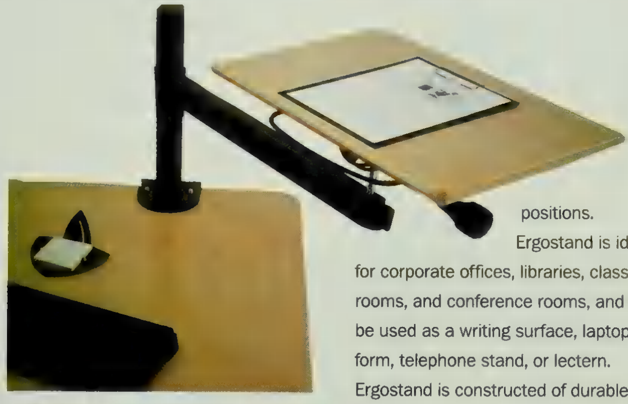
► If you are looking for a new office system



Haworth introduces "if," a new furniture system that features a utility chain integrating power from the floor, wall, or ceiling in freestanding environments. The flexible chain allows for floor-plan adjustments without disrupted power flow. "If" features four storage options: a desktop storage box, and a small, medium, and large mobile cart. The small storage box also serves as a convenient, padded, occasional seat. All storage compartments in the "if" line are available with traditional wood tops or surfaces, or neutral laminate surfaces that can be accented with a splash of Jupiter (apple green), Mars (red), or Neptune (blue/gray). Completing the line are egg- or fin-shaped and round tables with or without casters, mesh privacy screens, and a mobile easel with marker board surface and mountable display board. 616/393-3000. Haworth Inc., Holland, Mich. **CIRCLE 209**

► Well-done system

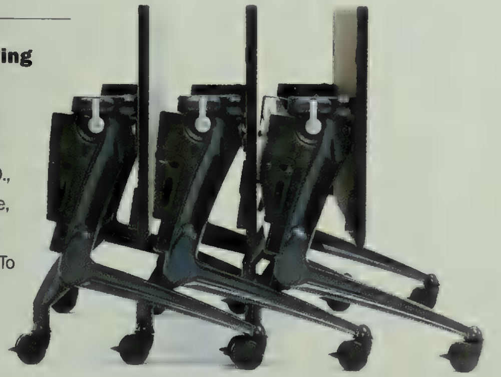
Contrada Raw features standard corrugated plexi-dividers to create visual privacy. Organic-shaped Raw worksurfaces with overhead frames are employed to house task lighting. A Contrada free-standing desk is used for additional worksurface and to promote teamwork. Also available are window, fabric, and tackable tiles to lend individual style and function to the workspace. The Power Arch adds flexibility in channeling power and data throughout a growing space. 800/968-0234. Trendway, Holland, Mich. **CIRCLE 210**



▲ Take a stand at work

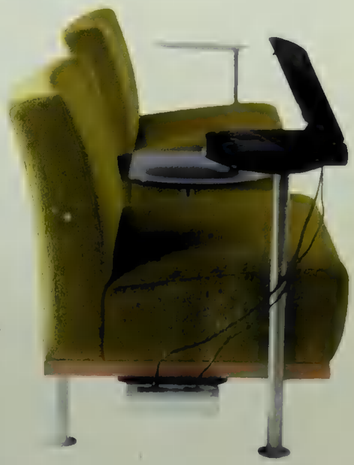
Ergostand stand-up auxiliary work surfaces can be retrofitted to most office workstations or desks to create an elevated work surface, which encourages the change between sitting and standing positions. Ergostand is ideal for corporate offices, libraries, classrooms, and conference rooms, and may be used as a writing surface, laptop platform, telephone stand, or lectern. Ergostand is constructed of durable powder-coated enameled steel in matte black, with gray melamine worksurfaces standard. 888/289-4724. Grahl Industries Inc., Coldwater, Mich. **CIRCLE 211**

► Basic training

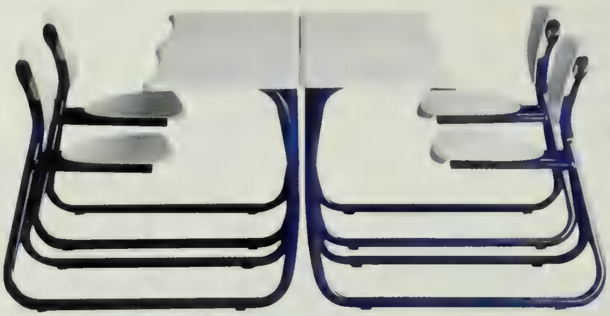


Train tables, designed by Vecta Design and I.D.E.O., flip, nest, roll, store, link, and manage wires and cables. To nest, release the swing arms that support the table top and flip the top down. Offset legs allow tables to nest compactly for movement and storage. The 28 ½-inch-high tables are available in laminate or veneer, and come standard with black, three-inch locking casters. Train's patented Coupler Station allows tables to link easily. Train can also carry a "Backpack"—a combination modesty panel, wire manager, and power/data distribution channel. 972/641-2860. Vecta, Grand Prairie, Texas. **CIRCLE 212**

► Suits a variety of palettes



With the Palette Lounge Series, designers can create a variety of solutions using one, two, or three seat units separately or joined together by connecting pallet tables. Palette offers a modular unit (to be be placed under a pallet unit) that slides out for access and contains two electrical and two data plugs. Power and data cords are stored in the seat and may extend up to 10 feet when necessary. 336/889-2009. Davis Furniture Industries Inc., High Point, N.C. **CIRCLE 213**



◄ Higher learning

Light enough for a child to move and stack, yet tough enough to withstand rigorous use, Einstein furniture is ergonomically designed to increase academic performance by increasing student comfort and support. The ability to stack, gang, and cluster the product gives teachers flexibility in reconfiguring their classrooms, reducing maintenance costs. Chairs and desks are manufactured in four sizes. 800/424-2432. KI, Green Bay, Wis. **CIRCLE 215**

▼ Celestial special

The Bluemoon collection of jacquard upholsteries and casements includes the 12 colorways of Milky Way (below). Milky Way features a raised pebble effect, and is made of 42 percent rayon, 41 percent polyester, and 17 percent cotton. It meets or exceeds ACT standards for heavy duty contract upholstery fabric. 800/4-PALLAS. Pallas Textures, Green Bay, Wis. **CIRCLE 214**

► Evolving furniture line

Kimball has enhanced its Skate office furniture line with wood tables, dry marker and translucent freestanding screens, and accessories. Skate wood tables are available in six shapes and 17 standard finishes. Table shapes include crescent, hexagon, trapezoid, tear drop, round, and rectangular (available in three sizes). Accessories include a hanging file folder, dry marker tile, and disk holder. 800/482-1616. Kimball Office Group, Jasper, Ind. **CIRCLE 216**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info.

GLASS FOR YOUR
FORM & FUNCTION

No matter what form or function your project takes on, Viracon offers you the most complete range of architectural glass products and services available worldwide. We work daily with our clients to deliver performance solutions that meet their individual requirements. Dedicated to staying on the cutting edge of technology, we are constantly bringing new and exciting products to the market for both interior and exterior applications. Our complete product line includes insulating, laminated, silkscreened, spandrel, security, hurricane-resistant, acoustical, tempered, heat-strengthened and high performance coated glass. Viracon's commitment to providing glass systems—within budget and on time—ensures you will successfully meet and exceed your client's needs.

VIRACON
"The Leader in Glass Fabrication"™

800 Park Drive Owatonna, MN 55060 • 507.451.9555 • 800.533.2080 (Toll Free) • E-Mail: glass@viracon.com • www.viracon.com

CIRCLE 85 ON INQUIRY CARD

Every Fire Door Should Look This Good.

The RITE Door™

Complete Door Systems

The Rite Door offers:

- *Grade 1 performance and construction*
- *Low profile design where clear opening must be maximized*
- *Positive Pressure fire ratings up to 3 hours*
- *Factory assembled hardware*
- *Wide range of custom finishes and options*

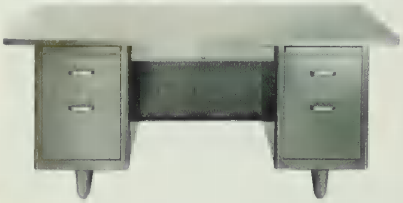
The Rite Door is the complete solution for fire rated doorways, blending beauty and innovative design. The integrated door assembly combines a fire rated door and low profile exit device into a single unit.

ADAMS RITE
MANUFACTURING CO.

260 Santa Fe Street, Pomona, CA 91767 • 800-872-3267 • Fax 800-232-7329 • www.adamsrite.com

CIRCLE 17 ON INQUIRY CARD

Product Briefs

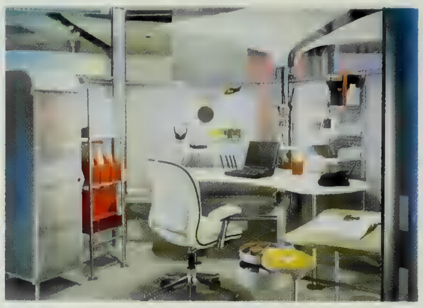


▲ Steel workers

Durable steel desks, once the mainstay of the American workplace, are back in style. Designed to handle vast mounds of paper, they now can accommodate computers and other office machines needed. The double pedestal desk (shown above), part of the MC Series, comes with or without a center drawer. Desk cases, table legs, and panels are finished in black or "vintage steel" enamel colors. 800/668-1020. Sonrisa Furniture, Los Angeles. **CIRCLE 217**

▼ Handy third arm

The X-Tension Arm connects to all BodyBilt models in addition to the standard armrests. In addition to the laptop attachment (shown), the X-Tension is available with an optional writing surface, mouse platform, or keyboard tray. There is even a special platform designed to hold a court stenographer's machine. X-Tension adjusts for height, width, and angle on multiple planes. 800/364-5673. BodyBilt Inc., Navasota, Texas. **CIRCLE 218**



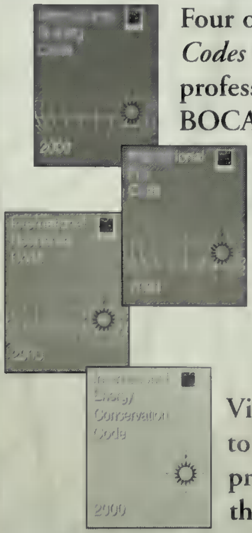
▲ Step into my constellation

Previewed last NeoCon, the "point-based" Resolve system, designed by Ayse Birsel for Herman Miller, will be the company's focus at this years show. The line is based around workstation "constellations" that branch out 120 degrees, placing the worker in the center of activity. Canopies, movable screens, and other accessories define the system. The company also has announced an alliance with textile design firms Jhane Barnes Textiles, Luna Textiles, and Maharam. 616/654-3000. Herman Miller Inc., Zeeland, Mich. **CIRCLE 219**

▶ Space-age grommet

Hafele America offers a new cable grommet called the Tango. The cover is made from zinc and is available in three finishes; black anthracite, mat chrome, and unfinished zinc. The grommet, an alternative to standard round shapes, has a breakaway tab so larger plugs can be passed through it. The Tango fits in a standard 80mm hole. 336/210-2400. Hafele America Co., Archdale, N.C. **CIRCLE 220**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info.



A bundle of *International Codes* "Designed" to fit your needs

Four of the NEW *2000 International Codes* that Architects and other design professionals use most are available as a BOCA bundle.

The Designer Bundle includes the *International Building, Fire, Residential* and *Energy Conservation Codes* at a bundle savings of 15%.
List $179; BOCA member $143

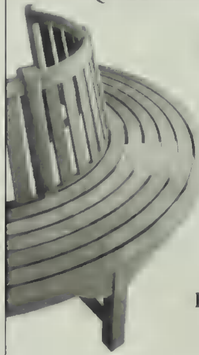
Visit our web site at www.bocai.org to see the complete line of BOCA products and services or see us at the A/E/C and CSI shows.

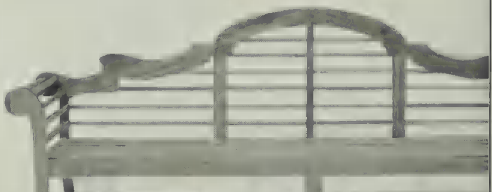
For more information or credit card orders, call 1-800-214-4321, ext. 712

FREE and PROMPT shipping.

BOCA BUILDING OFFICIALS CODE ADMINISTRATORS INTERNATIONAL

CIRCLE 92 ON INQUIRY CARD





The Garden and Leisure Furniture Specialists
Country Casual™
QUALITY & SERVICE SINCE 1977

Solid Teakwood Site Furnishings

FREE SHIPMENT FROM STOCK NATIONWIDE

BENCHES
SWINGS
CHAIRS
TABLES
UMBRELLAS
PLANTERS
TRELLIS

CUSTOM WOOD ENGRAVING

96-page Catalogue
800-284-8325 / www.countrycasual.com
9085 COMPRINT COURT, SUITE 1730, GAITHERSBURG, MD 20877

CIRCLE 93 ON INQUIRY CARD

YOU DON'T HAVE TO BE FAMOUS TO CREATE A MASTERPIECE

6th CENTURY STONE

roject: **St. Peter's Basilica**
esigner: **Michaelangelo**
roduct: **Marble & Travertine**

he greatest church of Christendom was
gun in 1506 under Pope Julius II.
had 13 chief architects, including
ichaelangelo, who held the post
til his death in 1564. The top
its cupola rises 435 feet
ove St. Peter's Square,
most 150 feet taller than
e U. S. Capitol.

21ST CENTURY STONE

Project: **Capital Commons**
Architect: **Smith, Hinchman & Gryllis Associates, Inc.**
Product: **ALPOLIC® Red Granite**

This seven-story, six-year-old building was reclad with ALPOLIC STONE SERIES,® utilizing a dry gasketed aluminum composite panel system. The entrances were
ad with ALPOLIC® red granite stone series aluminum composite material that weighs only one pound per square foot.

ike Michaelangelo's creations in marble, we have taken aluminum composite materials to new heights. In fact,
we're the leader in offering new and innovative products that can help you realize your visionary designs. ALPOLIC®
as the first to embrace PPG/MEGAFLON,® a high-performance fluorocarbon, as our primary paint finish. We were
e first to offer a virtually endless palette of colors limited only by a designer's vision. Now we've broadened our
e to offer you such unique products as our ALPOLIC STONE SERIES,® our ALPOLIC A-LOOK® reflective mirror sur-
ces and our ALPOLIC ISD® interior products that simulate wood and stone finishes. When you have a vision for
e 21st Century, create your masterpiece with ALPOLIC products.

ALPOLIC®

Helping You Create Today's Masterpieces

For more information, call 1-800-422-7270
or email us at www.alpolic.com

©2000 Mitsubishi Chemical America, Inc.

CIRCLE 54 ON INQUIRY CARD

Product Briefs

▼ Shady impressions

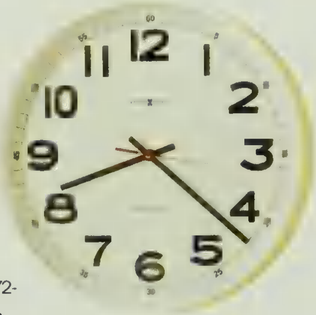
Visually transparent ImageShades are a medium for advertising or information graphics as well as a sun screen. The durable ink jet images printed on see-through or opaque shades communicate messages on shadecloths up to 96 inches wide by 40 feet high, as shown here by the new Levi Strauss & Co. flagship store in San Francisco. 800/899-8081. MechoShade Systems Inc., Long Island City, N.Y. **CIRCLE 221**

◄ Barely there

Formations linear air diffusers can be custom fabricated into straight lines, angles, and simple or complex curves to meet the most demanding visual and spatial air distribution requirements. Constructed of extruded aluminum, the air diffusers can be configured for a variety of vertical, diagonal, or horizontal air flow patterns. 727/441-2651. Metalaire, Clearwater, Fla. **CIRCLE 223**

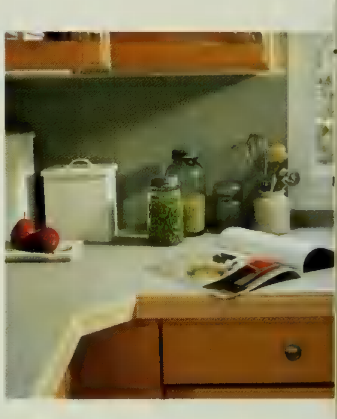
► On time, all of the time

The radio-controlled Accuwave DS collection includes wall, mantel, and table clocks equipped with an integrated circuit that picks up a boosted signal from transmitters which belong to the National Institute of Standards and Technology, and are linked to their cesium atomic clock. The clocks even correct themselves for daylight saving time automatically. 616/772-9131. Howard Miller, Zeeland, Mich. **CIRCLE 222**



► Tile look without the grout

FormicaTile delivers the look and texture of traditional tile to vertical or horizontal surfaces such as countertops, backsplashes, and shower surrounds. The Tumbled Tile line (shown) is available in laminate sheets featuring a four-by-four inch grout pattern divided by a realistic ⅛-inch grout line. FormicaTile can be post-formed to create unique edges. 800/FORMICA. Formica Corp., Odenton, Md. **CIRCLE 224**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info.

Call 4 Entries

DESIGN COMPETITION

FOR FURNITURE COMPONENTS, ACCESSORIES AND HARDWARE

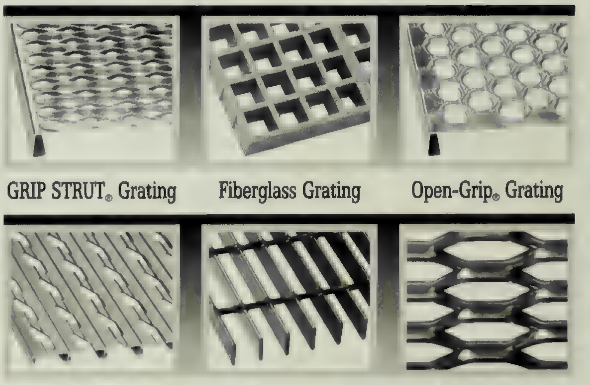
The "15th Annual Doug Mockett & Company Design Competition" is seeking entries. ☐ The competition is limited to furniture and cabinet components of any sort including hardware and accessories. Entries will be accepted until September 1, 2000, and winner(s) will be announced by December 15, 2000. ☐ A unique aspect of the competition is that only First Prizes are awarded, and there is no limit to the number of First Prize recipients. Winner(s) will receive US $1,000.00 and an engraved trophy, plus a royalty awarded for each design we accept for manufacture. ☐ All entries must be mailed to the address below REGISTERED, RETURN RECEIPT MAIL. ☐ For further information, please contact us.

Doug Mockett & Company, Inc.
Box 3333 • Manhattan Beach, CA 90266 USA
Tel: 310-318-2491 • FAX: 310-376-7050
Visit us on the Internet at www.mockett.com

CIRCLE 97 ON INQUIRY CARD

McNICHOLS®

Safety Gratings!



GRIP STRUT® Grating | Fiberglass Grating | Open-Grip® Grating
DIAMONDBACK® | Bar Grating | Catwalk Grating

Complete Hole Product inventories are available from Service Centers coast to coast in a variety of styles, sizes and materials.

The Hole Story
Since 1952

We can custom fabricate to meet your specifications. What you want– when you need it in 24 hours or less. Call "The Hole Story" today.

1-800-237-3820

McNICHOLS CO.
www.mcnichols.com

CIRCLE 98 ON INQUIRY CARD

A HALF BILLION FEET AGO
THERE WAS NO OTHER EXTERIOR SHEATHING
PRODUCT LIKE DENS-GLASS GOLD.
THERE STILL ISN'T.
100,000,000
500,000,000

Simply put, nothing performs like Dens-Glass® Gold. That's why design professionals and contractors count on our distinctive gold board as their preferred substrate for exterior EIFS and brick applications. Inorganic glass mats encase a highly moisture resistant core. The result is a lightweight, easy to install, strong material that stands up to all forms of moisture, including prolonged or wind driven rain. Because every inch of Dens-Glass Gold is backed by years of proven performance and 14 applicable U.S. patents. Plus the protection of a six month exposure warranty and five and ten year installed warranties depending on application. See specifications in the Sweets Directory (and CD). For information, call **1-800-225-6119** or visit **www.gp.com/gypsum. Don't ask for headaches, ask for Dens-Glass Gold.**

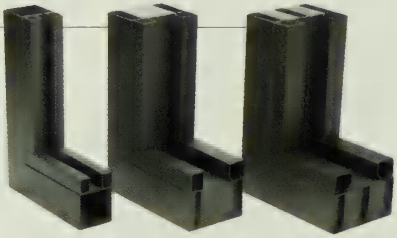
G-P Gypsum Corporation

CIRCLE 40 ON INQUIRY CARD

Product Briefs

▼ Strand board that bites back

Louisiana-Pacific in alliance with Osmose, a leader in wood preservation technologies, has created the SmartGuard line to combat the $3 billion nationwide termite epidemic. BarrierFloor treated engineered wood flooring incorporates a borate-based additive that penetrates and helps protect the flooring from termites and fungal decay. 800/580-4296. Louisiana-Pacific Corporation, Portland, Ore. **CIRCLE 225**



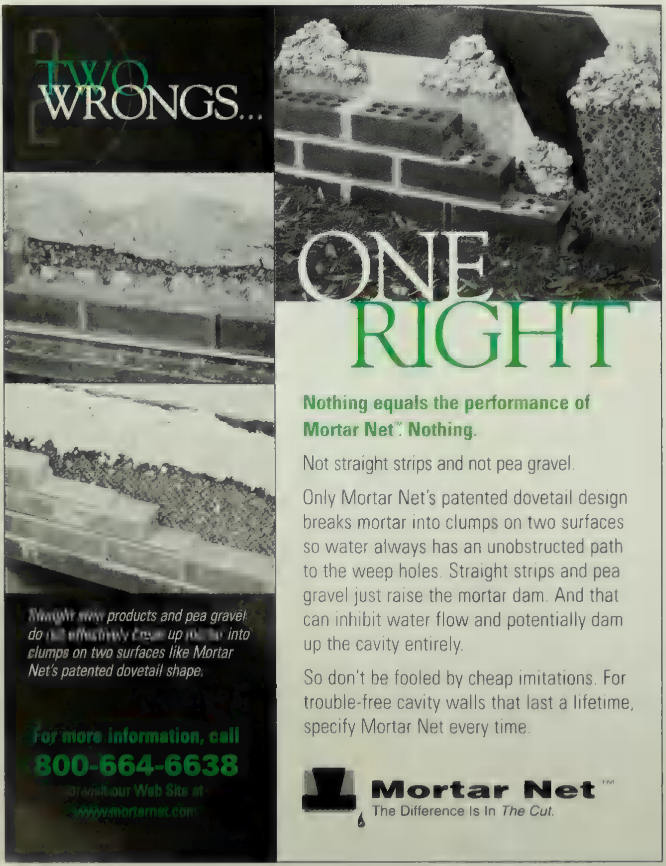
► European frames

Technical Glass Products offers a line of fire-rated doors and frames manufactured by Hermann Forster AG in Switzerland. The doors and framing have recently passed the necessary testing to be made available in North America. They allow for extremely large expanses of glass, and are listed with U.L. for fire areas requiring ratings from 20 minutes to two hours. 800/426-0279. Technical Glass Products, Kirkland, Wash. **CIRCLE 226**

▲ Galactic fabric

Planet M was built for Bertelsmann AG by Triad Architekten to be the focal point for the World Expo in Hanover. The exterior is specially designed stainless steel woven "Escale" architectural mesh, manufactured by GKD. At night, some 850 halogen project lights provide special effects. The versatile metallic fabric reduces glare, provides thermal protection, and protects windows without restricting air flow. 410/221-0542. GKD-USA Inc., Cambridge, Md. **CIRCLE 227**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info.


TWO WRONGS...

ONE RIGHT

Nothing equals the performance of Mortar Net™. Nothing.

Not straight strips and not pea gravel.

Only Mortar Net's patented dovetail design breaks mortar into clumps on two surfaces so water always has an unobstructed path to the weep holes. Straight strips and pea gravel just raise the mortar dam. And that can inhibit water flow and potentially dam up the cavity entirely.

So don't be fooled by cheap imitations. For trouble-free cavity walls that last a lifetime, specify Mortar Net every time.

Straight strip products and pea gravel do not effectively break up mortar into clumps on two surfaces like Mortar Net's patented dovetail shape.

For more information, call
800-664-6638
or visit our Web Site at
www.mortarnet.com

Mortar Net™
The Difference Is In *The Cut.*

CIRCLE 99 ON INQUIRY CARD

MUSSON

Grit Surface Aluminum Treads

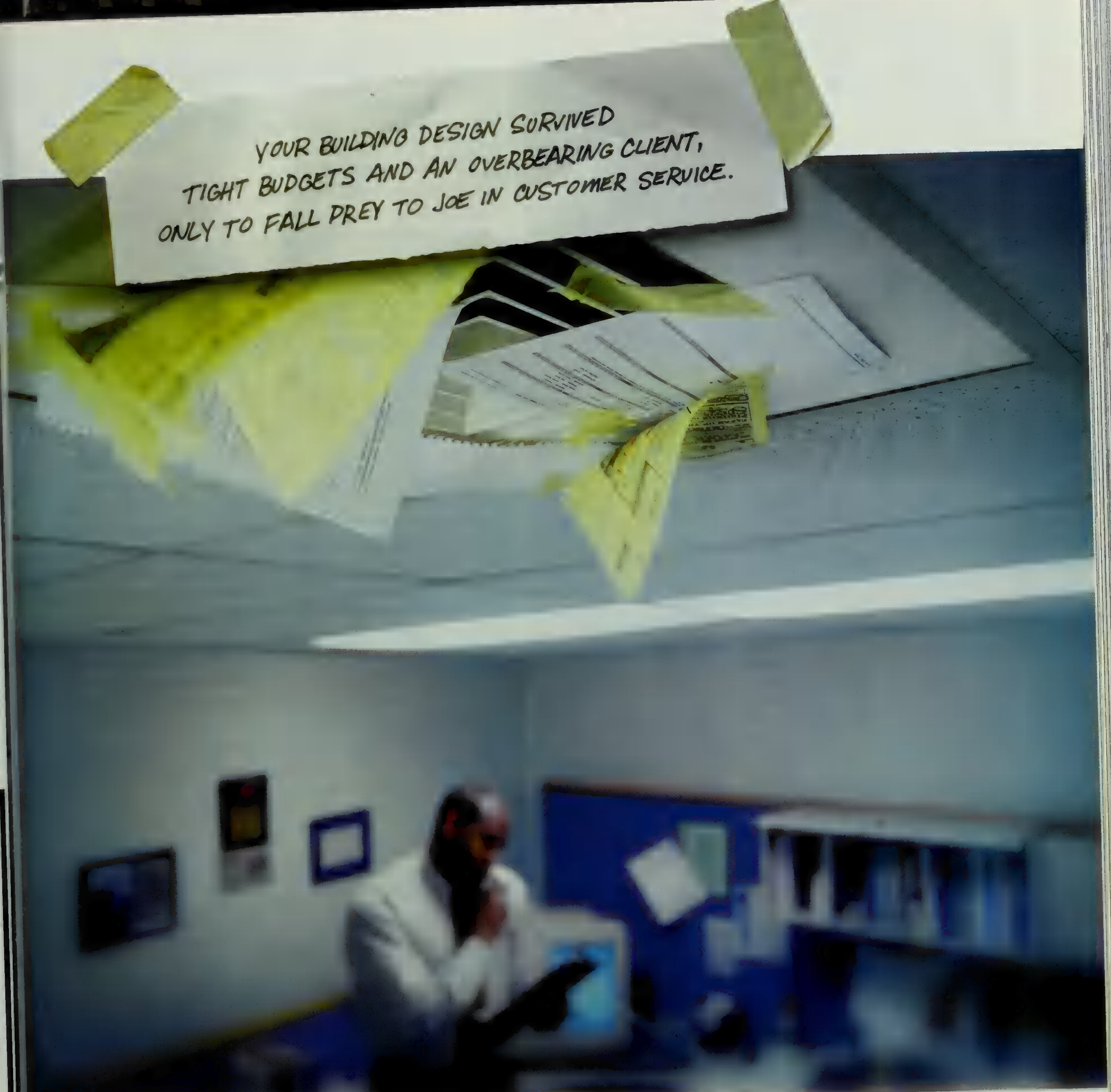
Can be installed on almost any surface. Perfect for public heavy traffic stairs, outdoors or in. Protect new steps or renovate old worn ones. Hard aluminum oxide abrasives combined with polymeric binders are bonded to a heat treated high strength aluminum square nose tread. 8 grit surface insert colors - same or in combination.

Insert shows texture of anti-slip surface.

For free brochure and samples, contact

MUSSON RUBBER CO.
P.O. Box 7038 • Akron, OH 44306 • Fax (330) 773-3254
800-321-2381 • E-mail info@mussonrubber.com • www.mussonrubber.com

CIRCLE 94 ON INQUIRY CARD

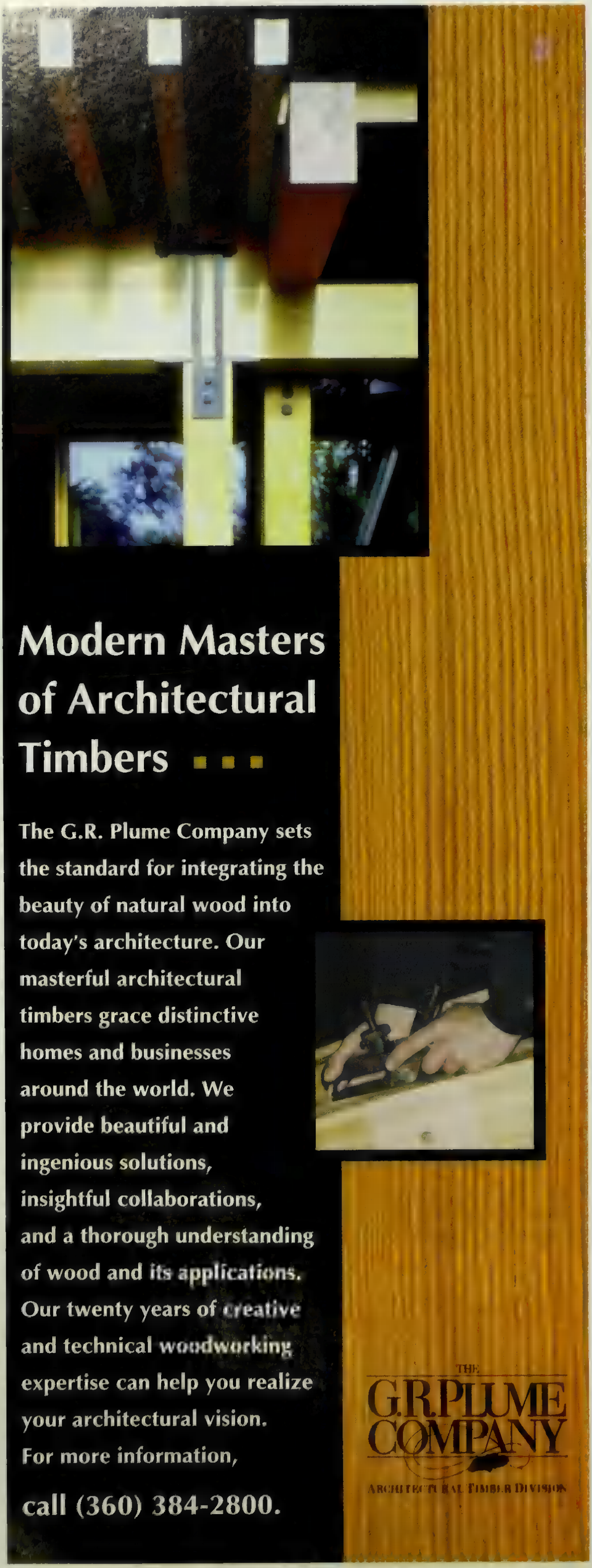

YOUR BUILDING DESIGN SURVIVED
TIGHT BUDGETS AND AN OVERBEARING CLIENT,
ONLY TO FALL PREY TO JOE IN CUSTOMER SERVICE.

e a building is designed and occupied, it takes on a life of its own. Suddenly, components that seemed unimportant (or were considered ne else's responsibility), start to transform the original plans. Things like ventilation, temperature, and lighting can have a huge impact on the tivity, comfort, and health of a building's occupants. If these elements aren't integrated into the overall design, people will take matters into wn hands, and it ain't always pretty. Educated clients are starting to ask for buildings that work for their people. Not against them. o us at info@betterbricks.com and ask how you can help a building be all it can be.

Northwest
Energy
Efficiency
Alliance

betterbricks.com
are you in a good space?

CIRCLE 103 ON INQUIRY CARD


Modern Masters of Architectural Timbers ▪ ▪ ▪

The G.R. Plume Company sets the standard for integrating the beauty of natural wood into today's architecture. Our masterful architectural timbers grace distinctive homes and businesses around the world. We provide beautiful and ingenious solutions, insightful collaborations, and a thorough understanding of wood and its applications. Our twenty years of creative and technical woodworking expertise can help you realize your architectural vision. For more information,

call (360) 384-2800.

THE G.R.PLUME COMPANY

ARCHITECTURAL TIMBER DIVISION

CIRCLE 79 ON INQUIRY CARD

Product Literature

Roof-edge systems brochure

A new brochure from Metal-Era provides information on the company's line of Anchor-Tite patented roof-edge systems. The material focuses on the testing, warranty, and installation benefits of Anchor-Tite fascia and coping. 800/558-2162. Metal-Era Inc., Waukesha, Wis. CIRCLE 228

Medical lighting brochures

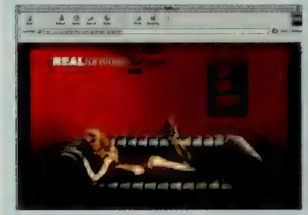
Derungs Medical Lighting, a newly acquired division of medical task-lighting products owned by Waldmann Lighting Company, highlights their newest series of color brochures featuring a complete line of medical task-lighting solutions. 800/634-0007. Waldmann Lighting, Wheeling, Ill. CIRCLE 229

Ceiling and wall solutions

Controlled Environments, an eight-page brochure from USG, features a Ceiling and Wall Systems Selector to help users specify the proper products for their particular applications, including clean rooms, food-processing facilities, and computer and security control rooms. 800/950-3839. USG Corporation, Chicago. CIRCLE 230

NEW SITES FOR CYBERSURFING

Virtual gallery offering contract furniture to everyone **www.realfurniture.com**



A Sun Management Calculator allows designers to make their own Pilkington LOF glass combinations **www.pilkington.com/sunmanagement**

Virtual kitchen and bath product showroom **www.Bathclick.com**

Online resource for information about window, door, and skylight energy performance **www.nfrc.org**

Flooring sample folder

PermaGrain has an updated architectural sample folder for its GenuWood II line of vinyl-bonded hardwood flooring. The sampler contains specifying information and samples of the species and color palette. 610/353-8801. PermaGrain Products Inc., Newtown Square, Pa. CIRCLE 231

Architectural glass data

New literature from PPG Industries provides technical data and performance options for the company's Optigray 23 architectural glass. A chart provides technical data about light and thermal transmittance. 800/377-5267. PPG Industries, Pittsburgh. CIRCLE 232

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info.

Product Literature

Insulation brochure

A new Sweet's brochure has been designed to help specifiers identify the Styrofoam brand insulation products that best suit their needs. The brochure offers a complete description of the insulation products, features, benefits, and systems. 800/441-4369. The Dow Chemical Company, Midland, Mich. **CIRCLE 233**

Locker selection guide

All scholastic and athletic lockers featured in the new *Lyon Locker Selection Guide* now include quiet-door operation. Also in the guide are ADA lockers for schools and universities, along with new athletic and club lockers, including all-welded, set-up models. 800/323-0096. Lyon Metal Products, Aurora, Ill. **CIRCLE 234**

Easier grout selection

The Chip Clip, from Laticrete, is designed to keep all of the company's group chips together. The "slide chip" design allows a customer to slide out a particular color chip, place the chip between two tiles, and select the grout color of their choice. 800/359-3297. Laticrete International Inc., Bethany, Conn. **CIRCLE 235**

Hardwood flooring catalog

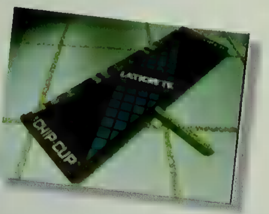
Harris-Tarkett has published *A Palette of Ideas*, a 32-page, lifestyle-oriented catalog that showcases the design versatility of the company's products and highlights the Alumide finish. In addition to "beauty shots," each product line is described in detail with features and benefits, complete product specifications, and photographic swatches of each species in the line. 800/842-7816. Harris-Tarkett Inc., Johnson City, Tenn. **CIRCLE 236**

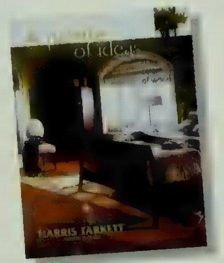
Hilton CD-ROM

The Hilton Hotels Corporation has approved Parex exterior finish systems for use on its hotels and residential suites projects, and the Parex line of exterior finishing products, including IC-Gold and IC-Silver, is featured on the recently released Hilton Residential Suites CD-ROM. Parex Inc., Redan, Ga. 770/482-7872. **CIRCLE 237**

Erosion control brochure

A full line of erosion-control fiber blankets of biodegradable or permanent synthetic composition is described in a new brochure from Contech Construction Products. These blankets help establish healthy vegetation, reduce runoff velocities, absorb rainfall impact, and entrap soil sediments. 800/338-1122. Contech Construction Products Inc., Middletown, Ohio. **CIRCLE 238**





For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info.

An ISO 900
Certified comp

VERSION 2.0

STAAD.etc™

Structural Component Design & Analysis

Fast, Interactive - STAAD/Pro 2000 Interface

Base Plates • Columns • Footings • Retaining Walls • Slabs • Much More

- Friendly Wizard-like interface makes component design quick and easy.
- Spreadsheet-type input with dynamic graphics.
- Flexibility to change individual data units, customize rebar and databases.
- **Automated step-by-step hand calculations.**

CIRCLE 82 ON INQUIRY CARD

Steel & Concrete Structures & Accessories

USA • UK • Germany • France • Canada • Japan • China

Research Engineers
a division of netGuru, Inc

FRE
CD DEM
800-FOR-RES
reiworld.co
info@ca.reiusa.co

Architec
Friendly
Indian Codes Also Available

START WITH

e-Builder™

FINISH ON TIME AND ON BUDGET.

Project Specific Web sites by e-Builder™ are easier, more effective and work better.

(Someone had to say it.)

Welcome to the PCL Arena Project

MP INTERACTIVE CORPORATION

The nation's largest provider of Project Specific Web Sites in 35 states and 2 countries

http://pclarena.e-builder.net/

Welcome to the Staples Center Project

Los Angeles, CA

LA Sports and Entertainment Center

STAPLES CENTER ARENA
LOS ANGELES, CA

TO LEARN MORE ABOUT INTERNET BASED PROJECT COMMUNICATIONS CALL:

800.580.WEBB

www.e-builder.net
info@e-builder.net

CIRCLE 106 ON INQUIRY CARD

Now that *your* profession has a preventive cure for common cracks, it would be a serious error not to spec it on all your future projects. NO-COAT Structural Drywall Corners are proven to prevent cracks caused by settling, lumber shrinkage and seismic movements. So don't let your practice suffer the shame of fractured corners. For a free video and brochure, call 888-662-6281 or visit no coat.com.

DISTRIBUTED BY GRABBER CONSTRUCTION PRODUCTS

CIRCLE 57 ON INQUIRY CARD

NO•COAT

BECAUSE STRUCTURAL CORNERS ARE STRONGER CORNERS

Dates & Events

Calendar

Anything Conference
New York City
June 1–3
This last annual conference of the 10-year A.N.Y. series features speakers Elizabeth Diller, Frank Gehry, Hani Rashid, Arata Isozaki, Saskia Sassen, Bruce Mau, Zaha Hadid, Jean Nouvel, Ben van Berkel, and Rem Koolhaas among others. Solomon R. Guggenheim Museum. 212/423-3587.

Chicago Architects
Chicago
June 3–March 2001
Selected architectural drawings on display from the permanent collection are linked with the Institute's oral histories of 50 Chicago designers, including Mies van der Rohe, Harry Weese, Paul Schweikher, and Myron Goldsmith. The Art Institute of Chicago. 312/443-3600.

Harnessing Technology and Utilizing Intranet/Internet Based Communications Solutions to Manage Construction Projects and Claims
Atlantic City, N.J.
June 5–6
This day-and-a-half seminar is presented by Construction Education Management Corporation. Hilton Casino Resort. 800/257-8677.

Retail Lighting Conference
Fort Worth
June 7–9
This gathering, titled "Illuminate 2000," promises the latest techniques and hands-on learning for lighting designers, specifiers, and project managers. Texas Christian University. 800/828-7134.

Congress of the Future of the Architect
Barcelona
June 7–11
An international conference explores the impact of the computer in relation to the brain and space and land policy and the city of tomorrow. Universitat Politècnica de Catalunya. 93-401-63-88.

Reinventing Space: Beyond the Boundaries of the Twentieth Century
Jerusalem, Israel
June 11–22
The fifth (since 1992) Jerusalem Seminar in Architecture brings together international architectural experts Wolf Prix, Robert A.M. Stern, Kenneth Yeang, Cecil Balmond, Thom Mayne, Enrique Norten, Carmi Pinos, and Bernard Tschumi—with a response by theorist Charles Jencks. Jerusalem International Convention Center.
972-3-512-0000.

NeoCon World's Trade Fair 2000
Chicago
June 12–14
Some 800,000 square feet of space is dedicated to commercial furnishings, services, forums, and networking opportunities in this annual must-see stop for design and construction professionals. Merchandise Mart.
800/677-6278.

50th International Design Conference: The Spirit of Design
Aspen
June 14–17
To investigate meanings in architecture, this three-day event explores broad themes: the inner spirit; beauty, aesthetics, and perception; and meaning (or the "chi" factor). Speakers will address a range of topics within these themes. 970/925-2257.

Structure and Surface: Contemporary Japanese Textiles
San Francisco
Through June 20
Japanese masters combine traditional techniques with modern industrial methods, in woven metals and other materials suitable for interior design and clothing. San Francisco Museum of Modern Art. 415/357-4000.

Buildings/NY Show
New York City
June 20–21
The 20th anniversary of this annual construction industry event. Jacob Javits Convention Center. To register call 888/334-8702, or go to www.buildingsny.com.

LEFEVRE STUDIO

architectural portraits
illustrated bronze maps
terrazzo embedments
pavement inserts
sculptural installations

27 Bleecker St NY NY 10012
Telephone 212 677 1445
LeFevreStudio@rcn.com
CIRCLE [illegible] ON INQUIRY CARD

WAUSAU TILE
YOUR SINGLE SOURCE FOR PRECAST CONCRETE PAVERS, FEATURING OUR NEW IMPRESSION PAVERS
N
W
S
E
WAUSAU TILE

P.O. Box 1520
Wausau, WI 54402-1520
800-388-8728
Fax 715-359-7456
www.wausautile.com

CIRCLE 72 ON INQUIRY CARD

A Way of Life: Apprenticeship with Frank Lloyd Wright, 1948-49
Washington, D.C.
Through June 23
Fifty-five color slides taken by former Wright apprentice Lois Davidson Gottlieb are teamed with firsthand observations for this display. The Octagon. 202/638-3105.

Construction Specifiers Institute 2000
Atlanta, Ga.
June 22–25
Educational seminars and demonstrations introduce nonresidential construction products, materials, and services offered by some 600 exhibitors. Georgia World Congress Center-East. 800/689-2900.

Bilbao: The Transformation of a City
Chicago
Through July 16
Models, plans, photographs, and drawings illuminate a dozen architectural projects—Frank Gehry's Guggenheim, Norman Foster's subway, Santiago Calatrava's observation tower/airport—that have recently energized the ancient city in Northern Spain. The Art Institute of Chicago. 312/443-3600.

Oswald Haerdtl: Architect and Designer 1899-1959
Vienna
Through July 14
This exhibition of Haerdtl's long career in Austria spans from early modernism through the World War II period and into the fifties. Architecture Centre Vienna (Architektur Zentrum Wien). 43-1/522-3115.

Future Focus 2000
Houston
July 22–26
A large annual gathering where futurists explore new business strategies and the challenge of succeeding in the networked modern global marketplace. Westin Galleria. 800/989-8274.

Shigeru Ban: A Paper Arch
New York City
Through August 1
Hot Japanese architect Ban will span the museum's sculpture garden with a high, 5,525-square-foot parasol fabricated from the thin waterproof paper tubes he terms "evolved wood." The Museum of Modern Art Sculpture Garden. 212/708-9750.

James Welling: Photographs 1974-1999
Columbus, Ohio
Through August 13
Prominent in this expo of 129 images by Welling are prints from the artist's small-scale *L.A. Architecture* series (structures in Santa Monica and Venice) and detail photographs of massive buildings by H. H. Richardson. Wexner Center for the Arts, The Ohio State University. 614/292-0330.

Gwathmey Siegel & Associates Exhibition
New York City
Through August 14
A display of 14 institutional projects is augmented by a 50-foot wall that surveys the entire practice of the firm. The Graduate Center, The City University of New York. 212/947-1240 x117.

Skyscrapers: The New Millennium
Chicago
August 19–January 15
Architectural models and drawings show some 50 high-rises currently under construction or recently completed. The Art Institute of Chicago. 312/443-3600.

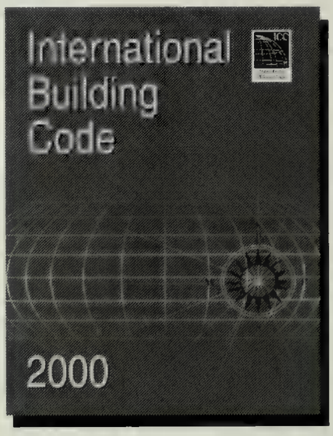
Frank Lloyd Wright: Windows of the Darwin D. Martin House
Washington, D.C.
Through August 20
An exhibition of some 70 art-glass windows,

Get "Up to Code" Fast
with the QuickStart Solution

Only from ICBO

Building departments across the United States are buying and adopting the new 2000 *International Building Code*

That's why ICBO created the QuickStart solution to help you get up to speed on the new code requirements fast. When you purchase an *International Building Code®* (IBC) from ICBO, we give you a complimentary copy of *IBC Code Highlights—A QuickStart Guide to the Code* and a set of Turbo Tabs. The *QuickStart Guide* will streamline your understanding of the IBC. The Turbo Tabs mark key sections of the code for easy access to the section you need. This all means faster, easier, more confident application of the code provisions in your design, plan review and inspections. Bottom line, these products will save you money and time.



QuickStart Solution (2000 IBC, IBC Code Highlights—A QuickStart Guide to the Code, Turbo Tabs)

Soft Cover Item No. 100S2K $77.80
(ICBO Member Discounts Available)
Loose Leaf Item No. 100L2K $87.80

Order Today!
(800) 284-4406
www.icbo.org

More Exclusive Offers from ICBO

- ✓ 2000 IBC Exclusive Hard Cover Edition - Quantities are limited.
- ✓ ASTM Referenced Standards - Contains all ASTM Standards that are referenced by, but not included in, the 2000 IBC. Check out the ASTM/IBC Package.

Call or visit our web page for details and pricing.

ICBO

More people buy code products from ICBO than from anywhere else in the world!

CIRCLE 80 ON INQUIRY CARD

"Exercises in Another Material"

Sottsass for Corian®

Museum of Contemporary Art

Chicago, June 12th 2000

for one evening only

(from 7pm to 11pm)

by invitation only:

www.anothermaterial.com

Museum of Contemporary Art Chicago

220 East Chicago Ave. Chicago, Illinois 60611

An exhibition supported by DuPont Corian

CIRCLE 35 ON INQUIRY CARD

doors, and skylights (both originals and reproductions) that Wright created for the house in Buffalo. National Building Museum. 202/272-2448.

Giorgio Morandi Etchings
New York City
Through August 22
Seen in this selection of 16 works from the period 1912-1945 is the Italian artist's subdued and architectonic formal style. The Museum of Modern Art. 212/708-9400.

Kahn's Modern Monuments
New York City
Through August 22
Drawings and models explore a pair of the mid-century architect Louis I. Kahn's favored themes: abstracted ancient monumentalism and massive layered enclosure. The Museum of Modern Art. 212/708-9400.

Modern Living 1
New York City
Through August 22
A hundred design objects, architectural drawings, and models explore the clarity, efficiency, and hygiene advocated by designers Gerrit Reitveld, Eileen Gray, and others who inspired the course for modernism. The Museum of Modern Art. 212/708-9400.

Smart Growth and Choices for Change
New York City
Through September 6
A new exhibition, *Smart Growth and Choices for Change*, presents 12 case-studies organized around the themes of "reinvigorating urban cities" and "repairing urban fabric." National Building Museum. 202/272-2448.

Design Diplomacy: Public Policy and the Practic of Architecture
Copenhagen
September 6–9
At this conference, a panel of architects offers an in-depth look at how architects can shape sound public policy as community leaders. Cosponsored by the McGraw-Hill Construction Information Group; a division of the McGraw-Hill Companies, New York. 888/273-8017.

At the End of the Century: 100 Years of Architecture
Los Angeles
Through September 24
In 21 parts, this massive international exhibition organized by MOCA surveys countless architectural photographs, scale models, drawings, furnishings, clips, and artifacts. The Museum of Contemporary Art at the Geffen Contemporary. 213/621-2766.

Modern Living 2
New York City
Through September 26
Beginning after World War II, figures such as Eames, Nelson, Saarinen, and Aalto adapted industrial technology for the manufacture of rational, functional, and affordable domestic objects on display. The Museum of Modern Art. 212/708-9400.

Rail-Volution 2000: The Livable Metropolis, Prospects, and Profits
Denver
October 4–8
A definitive national conference on the building of livable communities comprises hands-on workshops, case studies of built examples, workshops, and moderated panel discussions. Adams Mark Hotel. 800/788-7077.

Preserving the Recent Past II
Philadelphia, Pa
October 11–13
Sponsored by the National Park Service, the General Services Administration, the Society of

PLASTIC PARTITIONS WITH COLOR THROUGHOUT

Our 50 Years' Experience Comes Standard!

So do the full-length brackets, integral hinges and attractive, gapless design.

- Integral hinge system with the no-gap feature
- Integral full-height door stop – no hardware to break – no hardware required and no-gap feature
- Concealed lock (mortised) with "in-use" indicator and emergency access feature
- Full-length bright anodized aluminum brackets at all connections
- Heavy duty stainless steel pilaster mountings with leveling bolts and stainless steel plinths
- Heat sinks on all doors and panels
- Contoured corners on doors and panels
- Integral curtain track headrail combination of bright anodized aluminum
- Lifetime guarantee partitions will not rust or delaminate

Check These Options

- Color Connections™ – powder coated brackets, headrails, hinges and plinths to match or coordinate with Polly colors
- Special color Polly (minimum quantities required)
- Heavy duty full-height stainless steel Multi-cam™ hinges

Specify Metpar

Free catalog or CD for specs and details. METPAR CORP., 95 State St., Westbury, NY 11590
(516) 333-2600 • FAX: (516) 333-2618 • e-mail: sales@metpar.com

CIRCLE 81 ON INQUIRY CARD

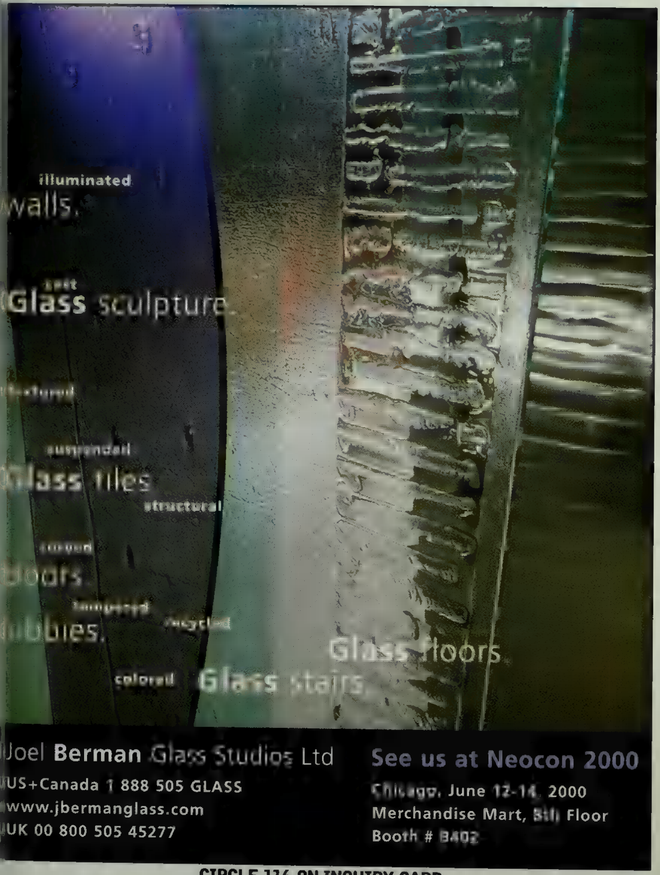
smi™
SPIDER MANUFACTURING INC.
AN ISO 9002 REG. COMPANY
Make Your Conference Table Intelligent
PHA - 4 FLUSH MOUNTED IN DESK BOX STAINLESS STEEL TRIM
Elegant Desktop Solutions Combining
- communications
- multimedia
- fiber optics
- electrical
- data

visit our website at
www.spidermfg.com
sales@spidermfg.com

For a Complete Catalogue
Phone: (250) 765-2610
Fax: (250) 765-2614

Spider Manufacturing Inc. #5 - 364 Lougheed Rd. Kelowna, B.C. Canada V1X 7R8

CIRCLE 101 ON INQUIRY CARD



Joel **Berman** Glass Studios Ltd
US+Canada 1 888 505 GLASS
www.jbermanglass.com
UK 00 800 505 45277

See us at Neocon 2000
Chicago, June 12-14, 2000
Merchandise Mart, 8th Floor
Booth # 8402

CIRCLE 116 ON INQUIRY CARD

The New Millennium

Coptic Church Design Competition

Eligibility:

Open to architects and designers worldwide

Deadlines:

Registration: thru July 12, 2000, $75 Entry fee
[Make check payable to: Coptic Church Design Competition]
Submission: thru September 27, 2000

Awards:

$15,000 first place prize, second and third places honorary mention. Prizes will be presented during an official ceremony on October 21, 2000.
The winning project will be publicized in major architectural magazines.

Jury:

Distinguished panel of professionals will select winners on the basis of aesthetics, design, creativity, function and satisfaction of religious objectives.

Information:

http://www.copticdesign.org
Fax: (914) 639 1522
Address: P.O. Box 271, New City, NY 10956, USA

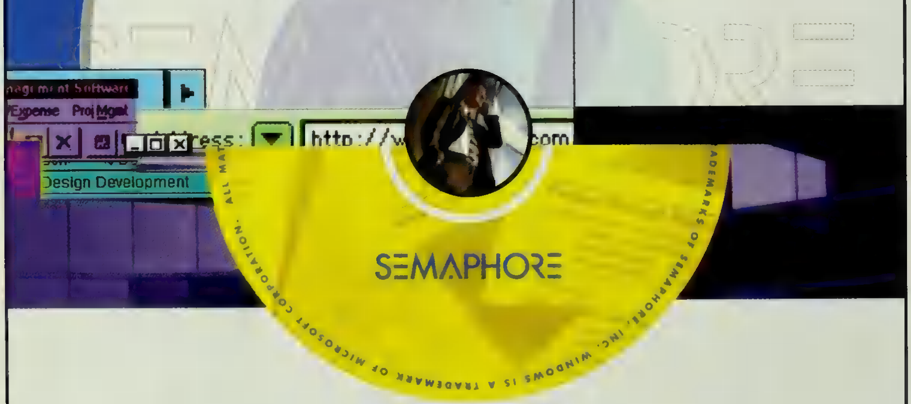
Sponsor:

VIRGIN MARY & ST PAKHOMIOUS
COPTIC ORTHODOX CHURCH
OF LOWER HUDSON VALLEY
P. O. Box 271, New City, NY 10956

CIRCLE 86 ON INQUIRY CARD

THE FACT THAT WE THINK ABOUT PROJECT MANAGMENT 24/7 PRETTY MUCH EXPLAINS ALL THE BIG IDEAS AROUND HERE.

- **Sema4 Enterprise** 3-tier client/server programming provides a remarkably robust way to keep everyone connected with information that's as new as now.
- **Sema4 Online Signals** SOS automatically sends e-mail alerts on important financial and project-related events as they happen.
- **Sema4 Internet Time and Expense** SITE users in any location can enter time and expense figures and view current project data via the Internet.



SEMAPHORE
FINANCIAL MANAGEMENT SOFTWARE

How can we help build *your* business?

After 15 years of innovation, our latest breakthroughs shouldn't come as any surprise. From the new modules and programs shown above, to the ability to run cash and accrual accounting side by side, a built-in Microsoft Project 98® two-way interface, and an Invoice Wizard that can guide *anyone* through the process of creating a custom-tailored invoice, we feel it's safe to say that the bar has been raised again. Add to that a full suite of custom services, 24/7 online support, and the most client-friendly Web site in the industry and it's clear that Sema4 is the natural choice for your business.

Call 1 800.545.7484 or visit www.sema4.com

Microsoft, Windows, the Windows logo, and Windows NT are registered trademarks of Microsoft Corporation. Copyright ©2000. Semaphore, Inc. All Rights Reserved.

CIRCLE 76 ON INQUIRY CARD

Dates & Events

Architectural Historians, DOCOMOMO, and other preservation-minded groups, this weekend of events includes 70 speakers, an exposition, tours, and a curtain wall symposium. Loews Hotel (historic PSFS Building). 202/343-6001.

Piet Mondrian: The Transatlantic Paintings
Cambridge, Mass.
Through July 22, 2001
Some 15 late paintings by the master abstractionist will accompany a display of two years' technical research into the artist's methods. Harvard University Busch-Reisinger Museum. 617/495-9400.

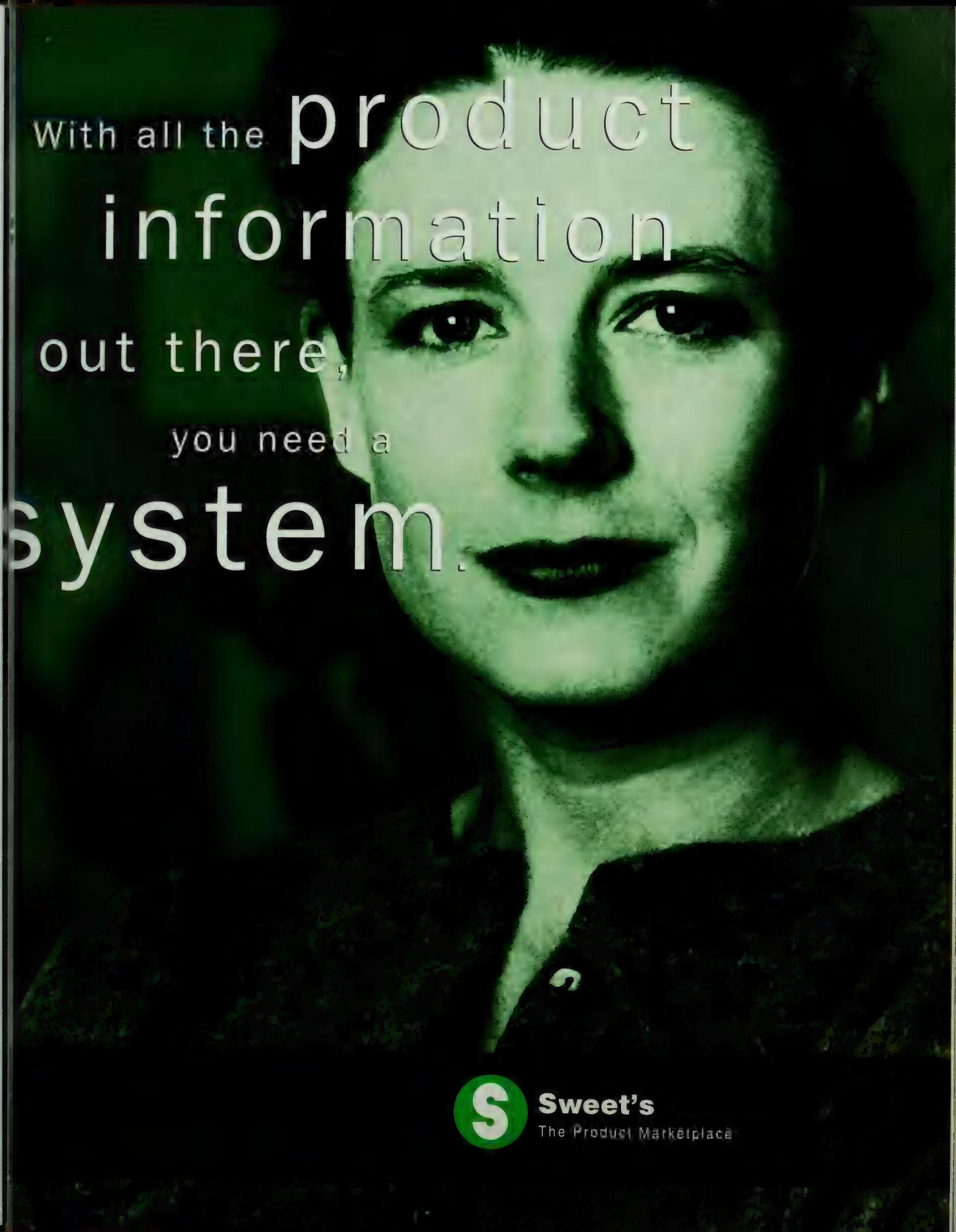
Competitions

Monument to the Third Millennium
First-stage entry deadline: June 16
At a new park in San Juan, the Puerto Rican government will spend $50-75 million on a monument to the third millennium. Five winners will receive a $10,000 stipend to develop their designs; the second-stage winner receives $50,000 and the commission. At least one member of each design team must be a registered architect in either the U.S. or Puerto Rico. Go to www.monumentcompetition.com for entry information.

The Gifu World Design Competition: Jan Ken Pon (Rock Paper Scissors)
Entry deadline: June 30
The $10,000 first prize (also, prizes of $5,000, $2,500, and $500) will be awarded to the designer of a manufacturable object "usable by the hands or made to fit in the hands." Paper, wood, ceramic, and/or metal must be used. Call 212/966-3722.

Please submit information for the calendar to ingrid_whitehead@mcgraw-hill.com.

ARCHITECTURAL RECORD: (ISSN 0003-858X) June 2000. Vol. 188, No. 6. Title ® reg. in U.S. Patent Office, copyright © 2000 by The McGraw-Hill Companies. All rights reserved. Published monthly by The McGraw-Hill Companies, 1221 Avenue of the Americas, New York, N.Y. 10020. Periodicals postage paid at New York, N.Y. RCSC and additional mailing offices. Canada Post International Publications Mail Product Sales Agreement No. 246565. Registered for GST as The McGraw-Hill Companies. GST No. R123075673. **POSTMASTER:** *Please send address changes to* ARCHITECTURAL RECORD, Fulfillment Manager, P.O. Box 566, Hightstown, N.J. 08520. **SUBSCRIPTION:** Rates are as follows: U.S. and Possessions $59; Canada and Mexico $79 (payment in U.S. currency, GST included); outside North America $199 (air freight delivery). Single copy price $8; for foreign $10. Subscriber Services: 888/867-6395(U.S. only); 609/426-5129 (outside the U.S.); fax: 609/426-7087.


With all the product information out there, you need a system.
Sweet's
The Product Marketplace

25,000 products. 1,600 manufacturers.
One industry standard.
Sweet's.
Sweet's Group
McGraw-Hill Construction Information Group
A Division of The McGraw-Hill Companies

Reserve the most comprehensive product selection and specification resource in the AEC industry, Sweet's System—2001 Edition—at special pre-release savings. Call 1 800 442-2258 or visit www.sweets.com now.

The fully-integrated, multi-media *Sweet's System—2001 Edition.*

Find the right product for your project, conveniently and quickly with *Sweet's System—2001 Edition.*

Sweet's is far and away today's leading resource for AEC professionals. In fact, ***97% of all architects use Sweet's as their primary product information source.**** Sweet's provides detailed information, specifications and technical data on more than 25,000 building products from over 1,600 manufacturers.

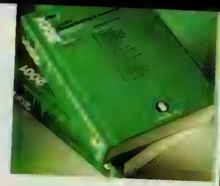
Sweet's System is more than just the comprehensive bound catalog files. It's a battery of integrated multi-media components, in print, digital and electronic forms, all designed to work as a system to meet the many needs of your design team.

Nothing makes it easier to search, select and specify building products.

Reserve Sweet's now and you'll get the 2001 Edition at a special pre-release discount. Plus you'll also begin receiving all the current 2000 editions of *Sweet's CD* and *Sweet's Product News*. **Call 1 800 442-2258** or visit **www.sweets.com** now to secure your *Sweet's System—2001 Edition. (Please refer to 5JAR1 when you call.)*

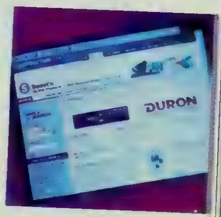
When you need product information, go where the industry goes first. *Sweet's System* is all you need.

**Hase/Schannen 1999.*



Sweet's Catalog Files

Sweet's CD



sweets.com

Sweet's Directory

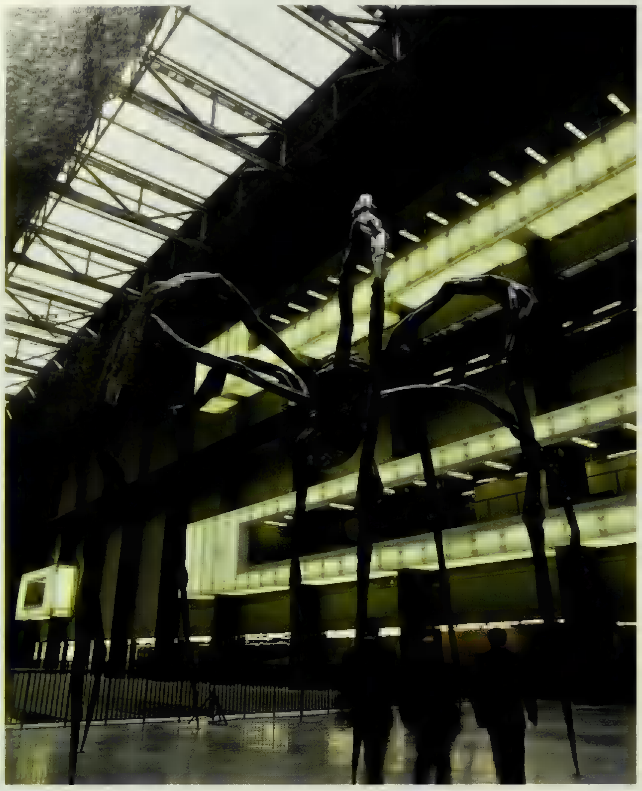
Sweet's Product News

Sweet's BuyLine® Service

Sweet's

The Product Marketplace

CIRCLE 11 ON INQUIRY CARD



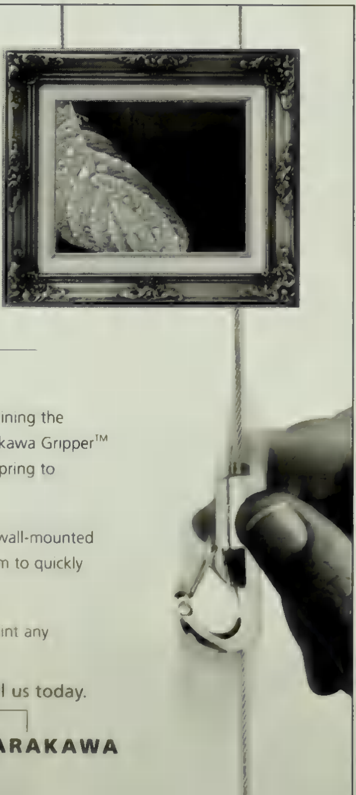
On the bridge cutting across the center of the Tate Modern's turbine hall is the installation of Louise Bourgeois' spidery sculpture, *Mama*.

WILLIAM CURTIS: TATE MODERN *(continued from page 109)*

suggest a promenade, the landings are somewhat characterless, and the museum's escalators seem a lame way of expressing vertical movement in architectural terms. These escalators may also prove insufficient for the crowds that will flood into the Tate Modern. But the real point is the lack of a strong gestalt governing the interaction of part and whole.

Herzog & de Meuron may have deliberately understated the role of circulation to avoid preexisting associations with ceremonial stairways in monumental art museums. If so, the exploration of a more open, "democratic" ethos seems poised on a knife-edge between social and architectural transparency on the one hand, and modern merchandising or transportation space on the other. This is the conundrum that has engaged such architects as Rem Koolhaas, who has not hesitated to pursue it through commentary, irony, and vulgarization. To their credit, Herzog and de Meuron have not chosen the easy way of populist imagery, preferring to work with quiet abstraction shorn of rhetorical gestures. The architects have used light as a primary material and attempted to create galleries combining a sense of assembly with an atmosphere of contemplation. Their means of articulation are so restrained as to be almost invisible.

The new Tate's architecture is a refreshing antidote to the British mania for "privatizing" all aspects of culture. Herzog and de Meuron have cut through the mystique of the museum, favoring a more open and transparent interpretation. In the process, they have introduced a fresh perspective on the art of architecture, sorely needed in the stuffy, even protectionist climate reigning in Britain. At a moment when British high-tech design seems in danger of resorting to cheap effects and one-liner visual images, here is a work by foreign architects that rejoices in subtlety and understatement. ■



form

and function

The new AF3P auto-lock hook: combining the convenience of the self-arresting Arakawa Gripper™ with the security of a carabiner-like spring to effectively secure your art.

Hang the AF3P from a cable on our wall-mounted rail, and you have an attractive system to quickly position art anywhere on the wall.

And you won't have to patch and paint any more nail holes.

toll free Call us today.
888.ARAKAWA

ARAKAWA HANGING SYSTEMS
1020 SE Harrison Portland, Oregon 97214 www.arakawagrip.com

CIRCLE91 ON INQUIRY CARD

GET CONNECTED!
GO TO *www.architecturalrecord.com*

People and products behind projects in *Record*
Building technology Continuing education
Digital products buyers' guide Technology product reviews
Index to past issues Notes from the field
Daily Headline & Late Breaking News
Sustainable resources Guide to green products
Career opportunities & job online fairs for additional positions
Links to advertiser web sites & product information ... and more

Architecturalrecord.com:
YOUR LINK TO THE WORLD OF ARCHITECTURE.

A New Innovation For Operable Walls.

NEW from Modernfold

Now Sleeker & Safer with Soss® Invisible Hinges.

Conventional Paired Panels

Standard Hinges

Optional

Soss Invisible Hinges

- Safer: No projecting hinge into the room
- Sleeker: The clean look of a fixed wall
- Better Security: The hinges are completely inaccessible

Hinges@SOSS.com

Exploded View

Fully Extended

The Soss invisible hinge is concealed.

Partially Extended

Stacked Position

*Patent Pending

Modernfold

First in walls that move

CIRCLE 115 ON INQUIRY CARD

www.modernfold.com

1-800-[illegible]

NEWHOUSE: TATE IN CONTEXT *continued from page 115*

Switzerland—provides a rich framework for the art shown in it.

The scale of industrial spaces has been a prime reason for their desirability as a showplace for art and a major influence on museum design. New overscaled art and the need for more galleries to house growing collections has contributed to the expanded size of museums today. Whether measured in terms of a single gallery or overall space, bigger is widely considered better. Not all artists, however, will necessarily share the intrepid, 99-year-old, Bourgeois' enthusiasm for London's enormous hall. While the Bilbao Guggenheim's variety of galleries serves art remarkably well, its architect, Gehry, says, "Even for sculpture the fish gallery is overwhelming." Its size (450 by 80 by 40 feet) has posed problems for some art shown in it, as may well be the case with the the Turbine Hall.

On the fifth level of the Tate Modern is a sculpture by Mario Merz.

Nevertheless, large-scale museums continue to proliferate. Herzog & de Meuron's museum in San Francisco will equal the Tate Modern's 320,000 square feet; Gehry's projected Guggenheim Museum on New York's lower East River totals 450,000 square feet; and Yoshio Tanaguchi's MoMA in New York will include 630,000 square feet—more than 20 times the size of the Whitney Museum of American Art. Topping them all, Mass MoCA will measure 700,000 square feet, when the entire complex is renovated.

A partial answer to the question of scale is offered by Herzog & de Meuron's proposed semiprivate Viewing Warehouse for the Emanuel Hoffman Foundation in Basel, Switzerland. Called "a new way to make art available," by Harry Gugger, partner in charge of the Tate Modern, the five-level, 190,000-square-foot building is divided into box-like spaces in which paintings are densely packed onto the whole wall, regardless of content or historical context (as in 19th-century museums). The same applies to installation art, which is displayed on floors instead of walls. Thus art can be stored and seen in a much smaller area than required for a museum.

Larger museums run the risk of feeling more like impersonal corporate headquarters than a distinctive cultural institution, and the sheer number of their galleries can be overwhelming. Spatial diversity is one antidote to these problems. At the Tate Modern this diversity will be even more effective when the raw area of the electrical switch station joins the museum to make a more equitable division of sacred and profane space. ■

ARCHITECTURE
Entry deadline: August 4, 2000
Submission deadline: September 1, 2000

INTERIOR ARCHITECTURE
Entry deadline: August 18, 2000
Submission deadline: September 15, 2000

REGIONAL & URBAN DESIGN
Entry deadline: September 8, 2000
Submission deadline: October 6, 2000

TWENTY-FIVE YEAR AWARD
Submission deadline: September 1, 2000

Call 202.626.7586 for detailed entry information, or go to www.aiaonline.com.

CELEBRATING THE BEST IN CONTEMPORARY ARCHITECTURE

the architecture
twenty-five interiors
year award urban design

The Smith House: Architect–Richard Meier & Partners; Owner–Carole Littlefield; Photographer–Ezra Stoller and Scott Frances/Esto

AIA

The more your business cares about how we do in school the more we will.

You can help students everywhere and help your business at the same time. How? By asking potential employees for their high school records.

84% of high school students say they'd work harder if they knew that employers would look at their transcripts.* Thousands of businesses are already requesting records.

When you ask, you'll be sending a powerful message to students: "How you do in school can help determine what kind of job you'll get, how much you'll earn, even how far you'll go."

What does your business gain? Better students make better entry level workers; they have lower failure rates and require less skills training. You can learn a lot about a student from a school record: grades, courses taken, attendance, and extracurricular activities.

So start now by logging on to **www.makeacademicscount.org** for information on making academics count.

Make asking for student records business as usual.

National Alliance of Business
American Federation of Teachers
National Association of Secondary School Principals
Achieve, Inc.
The Business Roundtable
National School Boards Association
American Association of School Administrators
U.S. Department of Education
Business Coalition for Education Reform
National Education Association
U.S. Chamber of Commerce
National Governors' Association

Ad Council

Education Excellence Partnership

MAKING ACADEMICS COUNT

*Source: Public Agenda (1999)

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

ANSWERS

Questions appear on page 176. To receive CES credits, fill in the education reporting form below or on our Web site (www.architecturalrecord.com).

1. Building codes require that stairs be stable, slip resistant, and noncombustible. Outdoor stairs must have solid treads with closed risers and be protected from weather, specifically snow, water, and ice. Nosings are limited to a 1½ inch projection and a ½ inch radius. Handrails are governed by code for placement, diameter, and extensions at the top and bottom of the run. Guardrails must be spaced six or fewer inches apart.

2. The material for the stairs should be consistent with the construction of the building or surrounding structures. Material choices depend on aesthetics, cost, maintenance needs, and climate. Concrete is the most common and cost-effective for both the substrate and the surface material. The top of this should be roughened to make it slip-proof. Metal substrates are also common, though they are subject to corrosion. Stone veneers, such as granite, limestone, and bluestone are often used, but require careful installation to keep mortar joints tight. Marble is problematic because it is soft and slippery.

3. Handrail materials are usually metal. Bronze, brass, and cast iron are durable choices. Powder-coated steel and stainless steel are also durable and often less expensive. Steel is the most common choice, though, for longevity, it should be galvanized and painted. Metal railing can react to the salts used in de-icing to form a corrosive solution. With stone surfaces, the corrosive solution makes stains and can cause the stone to delaminate.

4. About 25 percent of all insurance claims deal with bodily injury, including slip-and-fall cases. The most common problems with exterior stairs cited in insurance cases include: exposed metal edges on poured concrete stairs that catch on the front of the shoe, risers that are not uniform in height, improper lighting, short flights of stairs—one or two steps—where no handrail is required, and stairs that do not comply with ADA requirements for such things as handrail size or position.

5. Historic buildings pose special concerns since it is difficult not to alter the character of the staircase and, in the process, change the look of the building. Handrails should look like they have always been there and fit in with the design and scale of the building. However, meeting current code requirements may prevent accomplishing this goal. While choosing to reuse existing materials can help stairs and handrails blend in with historic surroundings, ADA requirements may be in conflict with historic design. It is worth working with code officials to see if a variance can meet the safety goals and continue the historic design aesthetics. ■

AIA/CES EDUCATION REPORTING FORM

(Use to report learning unit hours earned for ARCHITECTURAL RECORD only.)

Member information:

Last Name **First Name** **Middle Initial or Name**

AIA ID Number

Program/project title: Architectural Record (06.00)

☐ "Creating Safe and Appealing Public Stairs" [page 169]
☐ "Wire & Cable management for open-plan spaces" [page 182]
Section sponsored by The Wiremold Company

Completion date (M/D/Y): ______ / ______ / ______
AIA/CES Credit: Each article or sponsored section will earn you one AIA/CES LU hour of health, safety, and welfare credit.
Fill in: ____ total LU hours.

Material resources used:
Journal article or sponsored section: This article or sponsored section addresses issues concerning the health, safety, or welfare of the public.

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

Signature **Date**

Send completed form to University of Oklahoma, Continuing Education, AIA/CES, Room B-4, 1700 Asp Avenue, Norman, OK 73072-6400; fax 405/325-6965. To respond by E-mail, visit www.architecturalrecord.com and click on Continuing Education. For more information, call 800/605-8229.

DESIGN AS HIGH OR AS WIDE AS YOU CAN DREAM...

With Strong, Lightweight and Durable Metal Wall and Cladding Systems

A complete palette of colors and finishes, textures and profiles for the most discriminating designers of high- and low-rise commercial, institutional and industrial buildings.

Contact the Metal Construction Association for some free thought-provoking ideas, technical literature, Merit Awards entry brochure and more information on MCA's Metal Wall Panel Council.

104 S. MICHIGAN AVE.
STE. 1500
CHICAGO, IL 60603
PHONE: 312-201-0193
FAX: 312-201-0214
www.mca1.org

MCA
Metal Construction Association

CIRCLE 102 ON INQUIRY CARD

ADVERTISERS INDEX

Bold: *indicates page number.*
Italic. indicates Reader Service Number.

PAGE NUMBER	READER SERVICE NUMBER	
221	*17*	Adams Rite Manufacturing Co
259	*109*	AECdirect
244		AIA Call for Entries
254		AIA CES Awards
258		AIA Online
177	*18*	Altro Floors
87	*19*	Alusuisse Composites Inc
52-53	*2*	Andersen Commercial Group
67	*20*	Ann Sacks Tile & Stone
242	*91*	Arakawa Hanging Systems
50		Architecturalrecord.com
242		Architecturalrecord.com
2cov-1	*3*	Armstrong (Optima Vector™)
2	*111*	Armstrong (Arch Specialties Grp)
46		Autodesk (piracy)
188		Autodesk (iDesign)
51	*21*	Avonite
16	*22*	Bentley Systems Inc
28-29		Bidcom Inc
101	*23*	Bilco Company, The
222	*92*	BOCA/Bldg Offcls & Code Admins Intl
257	*114*	BoxOffice By Design
207	*24*	Bricsnet US
4-5	*117*	Buzzsaw.com
165	*33*	C/S Group
208	*25*	c-z.com
49	*26*	Ceco Door Products
12-13	*4*	Celotex (Ultra 90+ ceiling panels)
57	*27*	Celotex (gypsum board)
168	*28*	CENTRIA Architectural Systems
193	*108*	Cephren Inc
181	*29*	Certified Forest Products Council
39	*30*	CNA/Victor O Schinnerer & Co Inc
212	*31*	construction.com
249	*32*	Copper Sales Inc
222	*93*	Country Casual
48	*77*	CSI/Construction Specifications Inst
60	*96*	DécorCable Innovations LLC
136-37		Dell
197	*34*	Diehl Graphsoft Inc
224	*97*	Doug Mockett & Company Inc
20-21	*5*	DuPont Antron
23	*6*	DuPont Antron (Mohawk carpet)
235	*35*	DuPont Corian
201	*107*	e-IDC.com
218	*36*	Eagle Windows & Doors
59	*37*	EFCO Corporation
3cov	*38*	eZ
139	*39*	Follansbee Steel
225	*40*	Georgia-Pacific
237	*116*	Glass Studios Ltd
5[illegible]	*78*	Gordon Inc
228	*79*	GR Plume Company
204	*41*	Graphisoft
234	*80*	ICBO/Internatl Conf of Bldg Officials
42	*87*	Italian Trade Commission
62	*42*	IWP
97	*43*	J & J Industries
41	*44*	Johns Manville
95	*45*	Kawneer Company Inc
48A-B		Keilhauer
93	*46*	Kim Lighting
83	*47*	KONE
4cov	*100*	Kroin Incorporated
232	*88*	LeFevre Studio
33	*48*	Lutron (Hi Lume®)
35	*49*	Lutron (Grafik Eye®)
245		Making Academics Count
79	*50*	Mannington Mills Inc
214	*51*	Marley Flexco
44-45	*110*	Marlite
26-27	*7*	Marvin Windows & Doors
100	*52*	MBMA/Metal Building Mfrs Assn
227E		McGraw-Hill Companies, The
224	*98*	McNichols Co
247	*102*	Metal Construction Association
43	*53*	Metalaire
236	*81*	Metpar Corp
37	*112*	MiTek
223	*54*	Mitsubishi Chemical America Inc
243	*113*	Modernfold
14-15	*8*	Monarch
226	*99*	Mortar Net
230	*106*	MP Interactive (e-Builder)
226	*94*	Musson Rubber Co
68	*55*	National Gypsum Company
231E		NCQLP
187	*56*	NECA/IBEW NLMCC
231W	*57*	NO-COAT
18-19	*9*	Nord
227W	*103*	Northwest Energy Efficiency Alliance
217	*58*	Parex Inc
178	*59*	Petersen Aluminum
54	*60*	Prudential Lighting
229	*82*	Research Engineers
211	*104*	Revere Copper Products (EverGreen)
213	*83*	Revere Copper Products
195	*61*	Revit Technology Corporation
24-25	*84*	Ricoh
71	*62*	Roppe Corporation
30	*63*	Saab USA
85	*64*	Schott Corporation
238	*76*	Semaphore
61	*65*	Sloan Valve Company
203		SmartAge.com
237	*101*	SMI/Spider Manufacturing Inc
6-7	*16*	Solutia
210	*66*	Sony Electronics Inc
40	*90*	Speakman
98-99	*10*	StarNet
166-67	*115*	Sweet's
239-41	*11*	Sweet's (2001 Edition)
8-9	*12*	Technical Glass Products
138	*67*	Truebro
47	*68*	USG Corporation (ceiling systems)
173	*69*	USG Corporation (Fiberock)
220	*85*	Viracon
237	*86*	Virgin Mary Church
64	*70*	Vistawall Architectural Products
81	*71*	Visteon
74-75	*13*	Von Duprin (Ingersoll-Rand)
72-73	*14*	VT Industries
233	*72*	Wausau Tile
91	*73*	Wausau Window and Wall Systems
10-11	*15*	Weather Shield Windows & Doors
140	*74*	Wiremold (Walkerduct Pro Series)
182-86	*1*	Wiremold
175	*75*	YKK AP America Inc

For additional information on these advertisers, circle corresponding number on Reader Service Card, or visit our web site at www.architecturalrecord.com and click on Advertiser Information.

Executive Offices

The McGraw-Hill Companies
Two Penn Plaza
New York, NY 10121-2298

VICE PRESIDENT / PUBLISHER
Elaine Shusterman
(212) 904-3475 Fax: (212) 904-4652
shusterman@mcgraw-hill.com

ADVERTISING DIRECTOR
David Johnson
(212) 904-6217 Fax: (212) 904-4652
dave_johnson@mcgraw-hill.com

PRODUCTION MANAGER
Stephen R. Weiss
(212) 904-2793 Fax: (212) 904-6800
stephen_weiss@mcgraw-hill.com

PROMOTION DIRECTOR
Deborah Smikle-Davis
(212) 904-4558 Fax: (212) 904-6774
deborah_smikle-davis@mcgraw-hill.com

Advertising Sales

NORTHEAST / MID-ATLANTIC
Two Penn Plaza
New York, NY 10121-2298
Ted Rzempoluch
(212) 904-3603 Fax: (212) 904-4256
rzempoluch@mcgraw-hill.com

MIDWEST
One Prudential Plaza
130 East Randolph Street, Suite 400
Chicago, IL 60601-6213
Mike Gilbert (IL, IA, MN, MO, OH, W.PA, WV)
(312) 616-3338 Fax: (312) 616-3276
mike_gilbert@mcgraw-hill.com
Steve Roth (IL, IN, KS, MI, ND, NE, OK, SD, TX, WI)
(312) 616-3339 Fax: (312) 616-3276
stephen_roth@mcgraw-hill.com

SOUTHEAST / MID-ATLANTIC
4170 Ashford-Dunwoody Rd.
Atlanta, GA 30319
David Johnson
(404) 843-4770 Fax: (404) 252-4056
dave_johnson@mcgraw-hill.com
Sales Assistant: Pam Crews

WEST (AZ, CA, CO, NM, NV)
Media Sales Associates
1570 Vista Club Circle, #104
Santa Clara, CA 95054
Bill Hague
(408) 492-9292 Fax: (408) 492-9797
(253) 858-7575 Fax: (253) 858-7576
billh@abptuf.org

WEST (BRIT. COLUMBIA, ID, OR, S. CA, UT, WA)
5901 S.W. Macadam Avenue, Suite 230
Portland, OR 97201
Bill Madden
(503) 224-3799 Fax: (503) 224-3899
billmad@msn.com

CANADA (EXCEPT BRITISH COLUMBIA)
48 Little Rebel Road, RR 3
Schomberg, Ontario L0G 1T0
Frank A. Spangenberg
(905) 939-0653 Fax: (905) 939-0654
spang@sympatico.ca

Manufacturers' Spotlight/Postcard Service

Ally Wingate
(212) 904-2010 or 1-800-544-7929 Fax: (212) 904-4256
ally_wingate@mcgraw-hill.com

Classified Advertising

Ally Wingate
(212) 904-2010 or 1-800-544-7929 Fax: (212) 904-4256
ally_wingate@mcgraw-hill.com

Editorial

(212) 904-2594 Fax: (212) 904-4256
www.architecturalrecord.com

Subscriber Service

(888) 867-6395 (USA only)
(609) 426-7046 Fax: (609) 426-7087
p64cs@mcgraw-hill.com

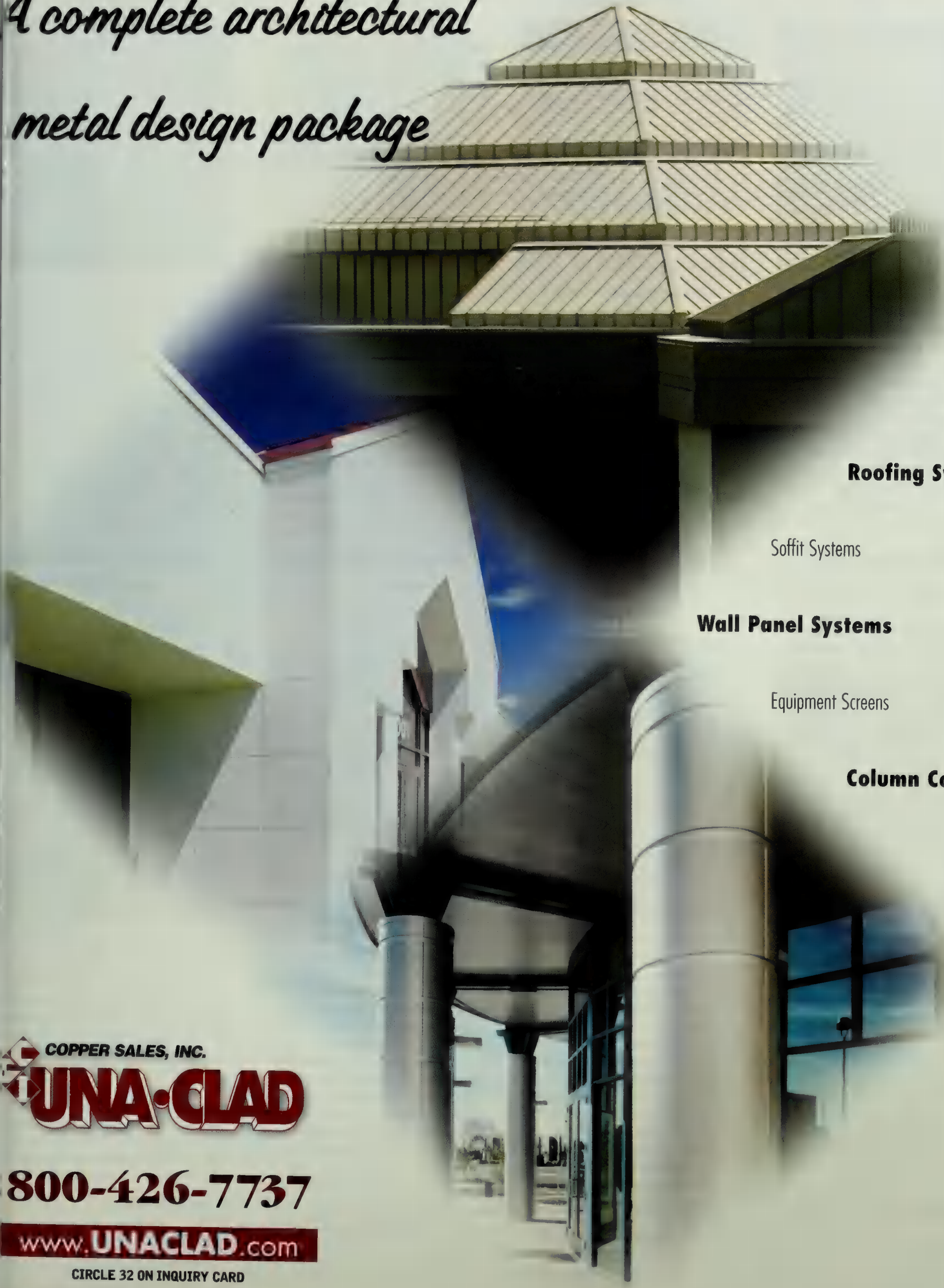
Back Issues

(212) 904-4635
phyllis_moody@mcgraw-hill.com

Reprints

(609) 426-5129 Fax: (609) 426-5472
doreen_bitowf@pubs.mcgraw-hill.com

A complete architectural metal design package



Roofing Systems

Soffit Systems

Wall Panel Systems

Equipment Screens

Column Covers

COPPER SALES, INC.

UNA-CLAD

800-426-7737

www.UNACLAD.com

CIRCLE 32 ON INQUIRY CARD

[illegible] F: (770) 889-9152

Discover An Important Difference

Preferred by homeowners, our concrete segmental retaining walls provide a cost-effective, structurally sound alternative to timber, poured-in-place or crib walls. Our network of manufacturers assure product availability and offer technical support for any project. Visit www.anchorwall.com or call 877-295-5415.

Anchor Wall Systems

CIRCLE 150 ON INQUIRY CARD

Alpha Collection 2000 Aluminum-Stainless Steel

New and innovative design patterns and textures. Ideal for most vertical surfaces. Border to border standard sizes. Thickness from 0.025" to 0.064". Quantity discounts and free design consulting. Ask us about our custom capability. SD+T Marketing INC., Phone: 305-856-3825 TollFree: 877-626-2595 Fax: 305-856-1287 Email: sales@sdtmarketing.com Web: www.sdtmarketing.com

SD+T Marketing Inc.

CIRCLE 151 ON INQUIRY CARD

Duraflake FR® Particleboard

Architects specify Willamette Duraflake FR® fire-rated particleboard for Class 1 fire protection for wall systems, store fixtures, furniture, & case goods. It has a UL flame-spread rating of 20 & a smoke-developed rating of 25. It resists warping & won't leach chemicals. Smoothness, machinability, & uniformity make it an ideal substrate. Third-parties offer a wide variety of laminated surfaces. Call today for information & a FREE Duraflake Specifications Binder. 800-887-0748, Ext. 310.

Willamette Industries, Inc.

CIRCLE 152 ON INQUIRY CARD

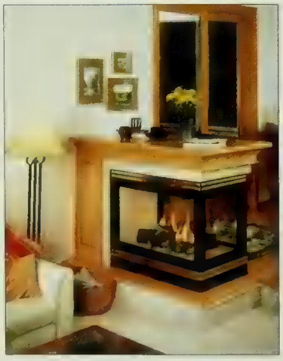
Ornamental Picket Fence with a Purpose

We have given special attention to each & every component of our fence. Every item is designed for strength, durability and low maintenance. No other company builds a complete fence – rail, rivets, brackets, pickets and posts, that are stronger, more durable, have more security or lower maintenance costs than our fences. Monumental Iron Works, 6500 Eastern Ave., Baltimore, MD 21224. Tel: 410-633-6500, Fax: 800-239-2963.

Monumental Iron Works

CIRCLE 153 ON INQUIRY CARD

Three-Sided Fireplace for Unlimited Installations

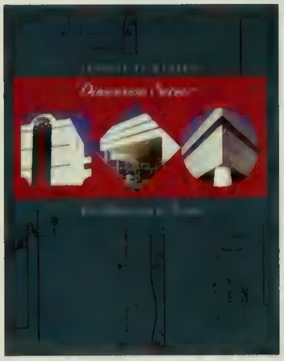


Heat-N-Glo introduces model PIER-TRC, a three-sided direct vent fireplace that can be terminated vertically or horizontally to accommodate nearly any application. The PIER-TRC is perfect as a room divider, bar, end of counter or a wide variety of creative installation possibilities. As with all Heat-N-Glo fireplaces, the PIER-TRC can be operated by remote control for the ultimate in convenience. Call 888-427-3973.

Heat-N-Glo

CIRCLE 154 ON INQUIRY CARD

Metal Panel System

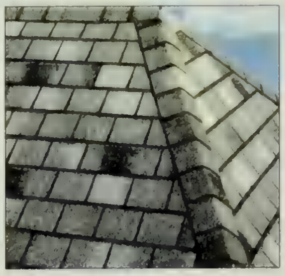


CENTRIA Formawall® Dimension Series® factory foamed metal panels, with their variable thicknesses, profiles and reveals, offer architects and building owners a new dimension of design freedom, providing them with flexibility to make their projects more eye-catching. The panels install quickly and easily, and their high insulating values offer reduced operating costs over the building's lifetime. Contact CENTRIA for a free brochure – 800-759-7474.

CENTRIA

CIRCLE 155 ON INQUIRY CARD

Hatteras®



An oversized 18" x 36" fiber glass asphalt shingle designed to withstand hurricane force winds. Features a dramatic eight-inch exposure; deep one-inch shadow lines; seven colors; and a 40-year limited warranty, including 10-year warranty coverage against winds up to 110 miles per hour. UL certified to meet ASTM D3462 performance standards; Miami-Dade approved; algae resistant.

CertainTeed

CIRCLE 156 ON INQUIRY CARD

Applications

The new flush exit device is designed for use on TOTAL DOORS in single, pairs & double egress pairs. Ideal for corridor & elevator lobby applications in all commercial facilities. The exit device allows continuous, uninterrupted sight-lines in corridors when doors are pocketed in the open position. Its quiet operation is ideal anywhere noisy hardware is a problem. TOTAL DOORS can be retrofitted into existing door frames, saving time & expense.

Openings

CIRCLE 157 ON INQUIRY CARD

ADVERTISEMENT

Neo-Metro™ Collection

Acorn Engineering Company introduces a new line of designer, stainless steel bath fixtures. The Metro-Urban Toilet (here in "Mira" finish) is fabricated entirely out of heavy gauge stainless steel. The Metro-Urban Toilet uses only 1.6 gpf. Acorn's Neo-Metro™ Collection also manufactures exclusive stainless steel washbasins, bathtubs, urinals and other fixtures for the residential and commercial bath. For more information: 800-591-9050 email: info@neometro.com www.neometro.com

Neo-Metro™ Collection

CIRCLE 158 ON INQUIRY CARD

Chadsworth's 1.800.Columns® www.columns.com

Voted No. 1 Preferred Brand in U.S. Columns, pillars, pilasters and posts available in wood, PolyStone™ & fiberglass. Interior, exterior. Variety of sizes & styles. Competitive prices. Jobsite delivery. Worldwide shipping. Our award-winning Idea Book features an exciting collection of column projects. Includes Columns Product Portfolio, $20 soft cover, $30 hard cover. Columns Product Portfolio $5 (credited to first order). Free flier. 800-486-2118 Fax 910-763-3191

Chadsworth's 1.800.Columns®

CIRCLE 159 ON INQUIRY CARD

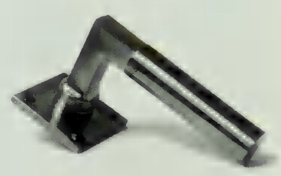
Architectural Signage

APCO's new Accord15 offers a cost-effective solution for personnel, room identification, & directional signs, as well as for simple directories. This sleek, modular sign system incorporates lightweight aluminum bands which may be screen-printed or vinyl-lettered. Also available is a unique insert slot feature which permits the use of vinyl, photopolymer, & user-created paper inserts. 404-688-9000, Fax: 800-329-2726, E-mail: sales@apcosigns.com, Web: www.apcosigns.com

APCO Graphics, Inc.

CIRCLE 160 ON INQUIRY CARD

NANZ®



The No. 2006 is a Bauhaus handle based on a Walter Gropius design. Nanz manufactures this and a wide range of other levers, knobs, locks, hinges and cabinetry hardware. Fax a request for our free Product Selection Guide or our $20 catalogue featuring this and over seventy other handles. Phone 212-367-7000, Fax 212-367-7375. www.nanz.com

Nanz Custom Hardware Inc.

CIRCLE 161 ON INQUIRY CARD

ADA Insulation Safety Covers

Plumberex Specialty Products, Inc. is the only company that manufactures a complete line of ADA safety covers for commercial & residential applications, meeting all building & fire codes with a -0- smoke rating. The Handy-Shield™ Safety Cover is the one and only ADA safety cover on the market with a "Dual" fastening system to help deter theft! For more information call 800-475-8629, Website: www.plumberex.com or email: plumberex@earthlink.net

Plumberex Products, Inc.

CIRCLE 162 ON INQUIRY CARD

Vertical Platform Lifts

The National Wheel-O-Vator Co., Inc. designs the Vertical Platorm Lift with Quality, Dependability, Customization and Service in mind. We are committed to manufacturing the best vertical platform lift in the business. When your number one need is accessibility for a new home, pre-existing home or commercial application, call National Wheel-O-Vator at Design Line 800-968-5438.email: wgreaves@wheelovator.com web site: www.whelovator.com

National Wheel-O-Vator

CIRCLE 163 ON INQUIRY CARD

Mini-JOMY® Pole Ladder

A scaled down version of the JOMY® Safety Ladder, specially designed for residential and light commercial applications. The Mini-JOMY® looks like a drainpipe but folds out to a 17" wide ladder with slip resistant rungs constructed of extruded anodized aluminum and stainless steel. The Mini-JOMY® is maintenance free and will last the lifetime of any building. Can be locked at ground level for access applications. Call 800-255-2591 for additional information. Or find us at www.jomy.com

JOMY® Safety Products

CIRCLE 164 ON INQUIRY CARD

Columns and Balustrades

Melton Classics' complete line of columns and balustrades are classically authentic yet affordable priced. Enhance your next project with fiberglass, marble/resin or wood columns for paint or stain, synthetic stone columns and balustrades, or choose from our comprehensive cast stone and polyurethane millwork products lines. 800-963-3060 or www.meltonclassics.com

Melton Classics, Inc.

CIRCLE 165 ON INQUIRY CARD

ADVERTISEMENT

MANUFACTURERS' SPOTLIGHT

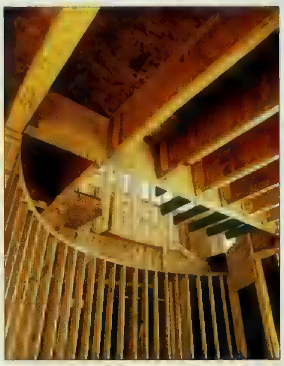
Boa Two-Circuit Track System

Bruck Lighting, the international leader in innovative low-voltage cable and track systems, introduces Boa, a low-voltage two-circuit track system with dual switching ability. Boa may be suspended or flush mounted, installed vertically or horizontally and is available in chrome or matte chrome. All Bruck Uni-lights fixtures can be utilized with Boa as well as all seven other Bruck track systems. www.brucklighting.com

Bruck Lighting Systems

CIRCLE 166 ON INQUIRY CARD

Willamette E-Z Frame® System



Architects specify the E-Z Frame® System because it offers superior design flexibility. This high-quality engineered wood framing package comes with a lifetime guarantee & is available at competitive prices. The system includes StrucLam® LVL, StrucJoist® I-joists, Willamette Classic Glulams™ & E-Z Rim® Board. Call for information and we'll send you our FREE E-Z Frame System Specifications Binder. 800-887-0748, Ext. 410.

Willamette Industries, Inc.

CIRCLE 167 ON INQUIRY CARD

Tensile Designs International (TDI)

TDI specializes in the field of small to medium size tension membrane structures. Our company manufactures long span umbrellas, hail protection structures for the automotive industry and custom tensile structures. TDI designs, engineers, fabricates and installs its projects using a network of international consultants. For information, contact Sam Armijos, AIA, TDI, 201 Main Street, Kansas City, MO 64105, 800-587-4233 or visit us at: www.tensiledesigns.com

Tensile Designs Int.

CIRCLE 168 ON INQUIRY CARD

Concrete Waterproofing by Crystallization

Applied as a slurry coating Xypex is a chemical treatment that waterproofs by penetrating the concrete with a crystalline formation that "plugs" the pores of the structure preventing water seepage. Xypex is ideal for use on the "inside" of wet underground structures.

Xypex Chemical Co.

CIRCLE 169 ON INQUIRY CARD

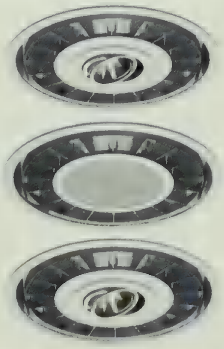
Ancor Granite Tile

Ancor produces over fifty No. American and Imported granites in a full range of colors and finishes for residential, commercial and institutional use. Standard format is 12 x 12 x 3/8"; other sizes up to 18 x 18 x 1/2" available. Honed finish tile is particularly suitable for high traffic commercial areas, 435 Port Royal West, Montreal, Quebec, H3L2C3, Canada. Ph: 514-385-9366, Fax: 514-382-3533.

Ancor Granite

CIRCLE 170 ON INQUIRY CARD

CircLet

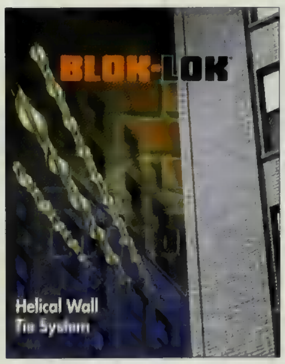


Wila Lighting introduces CircLet, a revolutionary multifunctional downlight utilizing the circular T5 lamp. CircLet's modular construction allows integration of speakers, video cameras, accent lights, smoke detectors, and fire sprinklers in the center "free space" of the fixture, which eliminates ceiling congestion. www.wila.com

Wila Lighting, LLC

CIRCLE 171 ON INQUIRY CARD

Stainless Steel Helical Wall Tie System



Blok-Lok, with over 35 years experience in the design & manufacture of masonry reinforcing and tie systems, provide innovative solutions for the repair & stabilization of defective walls. Blok-Lok offers an economical stainless steel helical wall tie that is driven into position through a properly sized pilot hole, providing a positive connection between wythes, while allowing for differential movement. Call 800-561-3026 or visit our website at www.blok-lok.com

Blok-Lok, Limited

CIRCLE 172 ON INQUIRY CARD

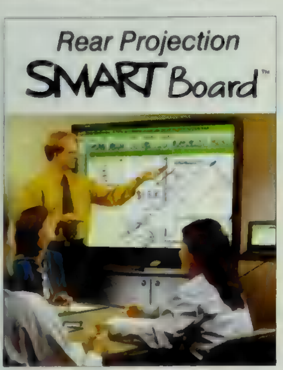
Architectural Products by Outwater

Outwater's Master Catalog for 2000 is your most important building and renovating tool! The catalog features 35,000 newly introduced and regularly stocked standard and innovative product essentials comprising Interior/Exterior Millwork, Columns, Wrought Iron Components, Brass Hardware, Lighting and more. Call: 800-835-4400; Web site: www.outwater.com

Outwater

CIRCLE 173 ON INQUIRY CARD

Interactive Whiteboard



The Rear Projection SMART Board™ is an interactive whiteboard that allows you to control projected Windows® or Macintosh® applications and other multimedia by pressing on the Board's large, touch-sensitive surface. Write over top of applications and your notes are saved for future reference and distribution. Architects and facility designers can request the SMART Product Kit by calling 888-427-6278 or by visiting www.smarttech.com/productkit

SMART Technologies Inc.

CIRCLE 174 ON INQUIRY CARD

Matrix Composites Inc.

Chosen by a distinguished panel of Architects for Architectural Record as one of the best new finishes for 1999, Madera Tile is made from an exciting new material known as Lignasil®. Using 100% post-use hardwood in a patented process, Madera forges new ground in "green" building material technology. Several textures are available in an exciting range of solid colors and unique color blends for your sustainable design solutions. Call 800-767-4495 www.maderatile.com

Matrix Composites Inc.

CIRCLE 175 ON INQUIRY CARD

Xenon Luminaries

Space Cannon Illumination Inc. introduces the Litehose, the latest in linear lighting technology made of extruded, durable optical-grade acrylic. Available in different diameters and sizes, reflective paints and films are not required. The Focus is an architectural coloured luminarie utilizing a 1200w lamp source designed to work with the Litehose or separately. 888-705-1028.

Space Cannon

CIRCLE 176 ON INQUIRY CARD

Site Furniture of Distinction

Keystone Ridge Designs, Inc. is the architect's choice for premier site amenities. Offering a full line of steel furnishings, we pride ourselves on exclusive designs and our patented powder coat finish, KEYSHIELD™, that is unparalleled in the industry. Quality, craftsmanship, and dedication to your creative vision are the hallmarks of Keystone Ridge Designs. For more information please call 800.284.8208 or e-mail KeystonRdg@aol.com. www.keystoneridgedesigns.com

Keystone Ridge Designs

CIRCLE 177 ON INQUIRY CARD

QuickGantt 3.0!

Quick and Easy Project Software!
QuickGantt
The Quickest Easiest Project Software!

Starting at just $99.95, it's the quickest, easiest project software guaranteed! Create professional project estimates, schedules, and status reports in minutes. Print reports and schedules for any time frame, project phase, or team member. 30 day money-back guarantee and toll free support. Call 800-536-6677 or visit www.Tools-for-Business.com today!

Ballantine & Company, Inc.

CIRCLE 178 ON INQUIRY CARD

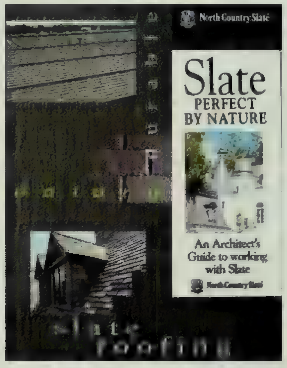
Swing Gate Operators from FAAC

FAAC is the world's largest specialized manufacturer of hydraulic operators for swing, slide and barrier gate systems. The Model 400 hydraulic swing gate operator is designed specifically for applications needing maximum versatility, such as apartment, subdivision and commercial/industrial installations. Its power also makes it ideal for large, ornate gates. Call 800-221-8278 for complete product brochure or visit www.faacusa.com

FAAC International, Inc.

CIRCLE 179 ON INQUIRY CARD

Slate Roofing

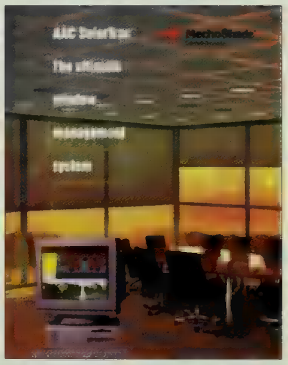


Natural North Country slate. For enduring character, nothing else compares.No wonder—it's perfected by nature! Free product brochure showcases the wide variety of sizes and colors, and comes with our Architect's Guide to working with this remarkable roofing material.

North Country Slate

CIRCLE 180 ON INQUIRY CARD

AAC SolarTrac™ Window Management System



The AAC SolarTrac™ Window Management System tracks the sun to incrementally adjust ElectroShades® automatically and building wide, to optimize the shadecloth's solar protection and energy efficiency characteristics. AAC SolarTrac™, using a PC-based program, factors in the sun's angle of incidence, solar heat-gain, allowable solar penetration, brightness and glare control based on the building's specific location. 718-729-2020 or www.mechoshade.com

MechoShade Systems, Inc.

CIRCLE 181 ON INQUIRY CARD

Gage Metal Ceilings

The Gage Corporation, Int., designs and manufactures the world's foremost collection of decorative metal ceilings. Design #447 (photo) is a good example of selective two-directional brushing with custom perforations from Gage's "Honest Aluminum" collection. Concealed suspension provides a clean monolithic appearance. Call the factory at 800-786-4243 for introductory literature and samples. E-mail: gage@centurytel.net Web: www.gageceilings.com

The Gage Corporation

CIRCLE 182 ON INQUIRY CARD

Dodge-Regupol Launches ECOsurfaces™

Dodge-Regupol (DRI), the world's largest converter of post-consumer tire rubber, launches Ecosurfaces™, xtreme recycled rubber™ flooring for both indoor & outdoor commercial applications. Not only environmentally sound, but also available in 38 vibrant colors, Ecosurfaces in rolls & tiles responds directly to designers' needs & their budget concerns. For a fresh new colorful way to create attractive environments, call Gerbert Ltd. at 877-Ecosurfaces (877-326-7873).

Gerbert Ltd.

CIRCLE 183 ON INQUIRY CARD

Decorative, Thin-Film Intumescent Fireproofing

Improved spray characteristics & ratings up to 3 hours! A/D FIREFILM®II permits designers to use the appearance of exposed steel with the steel protected from fire. The product is applied as a thin-film coating 0.4 to 3.3 mm (16 to 130 mils) thick. When exposed to fire it expands to form a meringue-like insulating layer up to 4 in. thick. A/D COLORCOAT topcoat is available in a wide range of colours. Call 800-263-4087 or 416-263-4087. Internet: www.adfire.com See us in Sweets.

A/D Fire Protection

CIRCLE 184 ON INQUIRY CARD

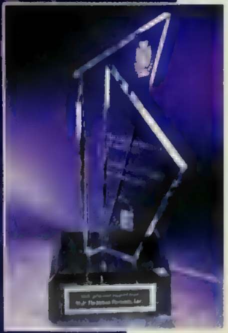
Concord Horizon-The Commercial Accessibility

The Horizon is one of Concord's fully enclosed elevators. Its innovative cable hydraulic drive system delivers reliable, quiet & smooth operation while serving two to six stops. The Horizon is the ideal commercial accessibility solution for the physically disabled. Standard features include emergency battery powered door operation & lowering, a slack cable safety device, & emergency cab lighting. For information, please call 800-661-5112 or visit us at www.concordelevator.com

Concord Elevator Inc.

CIRCLE 185 ON INQUIRY CARD

CES Providers Award for Excellence



THE AIA/CES AWARD FOR EXCELLENCE HONORS *REGISTERED PROVIDERS* AND THEIR COMMITMENT TO QUALITY PROGRAMMING AND PROFESSIONAL DEVELOPMENT. THE JUDGING CRITERIA INVOLVED A DETAILED ANALYSIS OF THEIR EDUCATION PLANNING, DELIVERY, AND EVALUATION PROCESS. FROM A TOTAL OF SIX JUDGING CATEGORIES, THE FOLLOWING FOUR WINNERS WERE CHOSEN TO RECEIVE THE 1999 AWARD:

LARGE FIRM

Hellmuth Obata + Kassabaum, Inc.
Jerry Sincoff, FAIA, Chief Executive Officer and President
For information contact:
Marsha Littell, Dean, HOK University
211 North Broadway, Suite 900,
St. Louis, MO 63102
Phone: 314.421.2000 x2134 Fax: 314.421.2152
Email: marsha.littell@hok.com; www.hok.com

AIA CHAPTER/COMPONENT

AIA North Carolina
Timothy D. Kent, CAE
115 West Morgan Street
Raleigh, NC 27601
Phone: 919.833.6656
Fax: 919.833.2015
Email: aianc@interpath.com
www.aia-nc.org

EXTERNAL PROFESSIONAL PROVIDER

AccessibilityUSA
Robert V. Buck, AIA
13438 Bandera Road, Suite 104
Helotes, TX 78023
Phone: 800.279.2699
Fax: 210.695.5329
Email: mail@accessibility.com
www.accessibilityusa.com

EXTERNAL COMMERCIAL PROVIDER

Latricrete International
Karen A. Nordlum
91 Amity Road
Bethany, CT 06524
Phone: 800.243.4788 x239
Fax: 203.393.1948
Email: kanordlum@laticrete.com
www.laticrete.com

AIA

With generous support of **W.P. Hickman Systems, Inc.** and *Architectural Record*
AIA, CES, Thom Lowther, 202.626.7478; (fax) 202.626.7399; tlowther@aia.org; www.aiaonline.com

UNIVERSITY SPACE PLANNER

Pace University, a large, private institution with campuses in New York City and Westchester County, is seeking a professional candidate for the following position:

In this role, you will lead all campus and space planning for Pace University. Responsibilities include working in concert with various departments, state and local officials, and consulting with internal and external architects and engineers; preparing an overall master plan of physical facilities regarding land uses, building sites, utilities locations, flood control, parking and transportation and recreational spaces (including community impact); serving as the University's representative and liaison with local cities, counties and communities; supervising staff, and preparing departmental budget.

To qualify, you must have a Bachelor's degree (MA preferred) in architecture, engineering, planning or related field and at least 5 years experience. Registration as an architect or engineer in the state of New York is required. (Membership in Society of College and University Planners preferred). Working expertise of CAD drawing required. Excellent organizational, supervisory and prioritizing skills essential.

We offer a comprehensive benefits package. Please send resume and salary history to: **Connie Giamei, HR Services, Pace University, 861 Bedford Road, Pleasantville, NY 10570**. AA/EOE.

PACE UNIVERSITY

HILLIER

Corporate - Education - Sci Tech
Princeton, NJ

Tired of just making buildings?

Do you want to make significant architecture that stirs the emotions and transforms our built environment?

We have opportunities....

- Academic Buildings
- Research Facilities
- Campus Planning
- Libraries
- Interiors
- Corporate Offices

Jeff Goldberg/Esto

We are seeking talented architects:
- leaders with 3-8 years experience
- interns with vision & motivation
- all with a passion for design & technology

Please call 609-452-8888 (ext. 5514)
employment@hillier.com

POSITIONS AVAILABLE

INTERIOR DESIGNERS/ARCHITECTURE/ FURNITURE DEALERSHIPS

merican Personnel specializes in corporate designers nd furniture specialists, established since 1969, are in onstant search for prospective employees, to fill our arious job opportunities with our national clients. roject Managers/Ast. Project Mgrs/Sales ssociates/Sales Asts./AutoCAD Operators/administrative Support /Entry-level Designers. Clients are ased out of New York City, New Jersey, and other ocations. For more details on our services, please feel ree to call Frank Cassisa - Executive V.P., Ph: 212-233-900, Fax: 212-233-3043 or after 7pm at 732-360-0655.

ARCHITECTS NEEDED!

enior Level Architects, are you interested in a career hange or are you searching for better opportunities? xecutive search and recruiting firm with 25+ years f experience in the architectural and engineering ndustry serving the nation's leading A/E firms. lease submit your resume to: CSS Search and ecruiting, c/o Duane McClain, 115 5th Ave. S., Suite 01, La Crosse, WI 54601. Fax: 608-784-4904. elephone: 608-784-4711. Email: css@csssearch.com. or a current list of our job openings, log on to our eb site at www.csssearch.com

JUNIOR ARCHITECT

unior Architect wanted by architecture co. in New ork City. Must have B. Arch & 1 3/4 yr exp using utoCAD, 3-D applications & hand drawings, coneiving & performing architectural dsgn for museum nteriors & high-end commercial projects. Respond y resume to AR, Box #PV-8551.

DESIGNER

Computerized Designer of architectural interiors wanted by architectural interior design firm in New York, NY. Must have Bach in interior dsgn & 1 yr exp using CAD system to plan, design & provide interior envrmts for commercial spaces. Respond to: HR Dept. Tobin + Parnes Architecture & Interior Design, 304 Hudson St., Ste 500, New York, NY 10013.

INTERIOR DESIGNER

Interior Designer (cruise ship) wanted by architectural firm in Miami Beach, FL. Must have Bach in Interior Dsgn & 2 yrs shipyard exp performing all interior dsgn functions for luxury cruise ships. Respond to: HR Dept., Joseph Farcus Architect, P.A., 5285 Pine Tree Dr., Miami Beach, FL 33140.

ARCHITECTS – $40,000-$135,000

Key positions nationwide with leading A/E Regional and National firms. Management, design, staff and marketing positions. Highly Confidential! No fee! Group One Search, 639 N. 7th Str., Grand Junction, CO 81501. Tel: (970) 241-2499, fax (970) 241-2504, e-mail: grouponesearch@aol.com. Visit our website at www.grouponesearch.com today!

ARCHITECT CONSULTANT

Apply scientific & mathematical theories & principles to the design & construction of interior's projects; evaluate, select & apply standard architectural techniques, procedures & criteria. 2 yrs exp., Bachelor degree in architecture; $18.00/hr, 40 hr/wk. Jobsite/interview: Marina del Rey, CA. Send this ad & resume to job #CCR43852; P.O. Box 269065; Sacramento, CA 95826-9065.

ARCHITECTURAL DESIGNER

Wanted by architectural & eng services firm in Irvine, CA. Must have Bach in Architecture. Respond to: Shirley Teng, C.F.O., Delta Groups Engineering, Inc., 2601 Main St., Ste 260, Irvine, CA 92614.

PROJECT MANAGER
ARCHITECTURAL DESIGNER
PROJECT ARCHITECT

3D/International has opportunities across the U.S. for bright, energetic people. We're always on the lookout for the brightest and the best. We hope you'll find 3D/I the place where we can accomplish our goals together. And have fun doing it. For more information about opportunities with our organization, please visit our web site at www.3di.com or call Kathryn Garner at 713-871-7080.

ARCHITECT / SPEC. WRITER
PROJECT MANAGER / ARCHITECT

Reese, Lower, Patrick & Scott, a nationally known 85-person practice, is seeking to make two unique additions to our staff. Architect/Spec. Writer, architect registration, minimum 3-5 yrs. experience in preparing/editing specs, and good working knowledge of writing specs and CSI fundamentals are req'd. Candidates should have extensive knowledge of construction materials and systems, AIA MasterSpec, and experience in editing specs on screen with Word 97. Project Manager/Architect with at least 5 yrs. experience; strong organizational skills required, knowledge of CAD, building construction, contract documents. Our practice specializes in seniors' housing and educ. facilities. We offer a national design reputation, an attractive work environment, and sophisticated computer support. Resumes to 1910 Harrington Dr., Lancaster, PA 17601; www.rlps.com

POSITIONS AVAILABLE

WALKER
PARKING CONSULTANTS

PROJECT MANAGERS

You recognize us as the world's leading expert in parking consulting, design, and restoration services. As a result of successful implementation of our strategic plan, we continue to grow and are looking for motivated individuals to join our winning team. We have openings for registered professional engineers and architects with experience in coordinating architectural, structural, civil, and MEP designers in the preparation of building plans and specifications in:

Ann Arbor, MI
Kalamazoo, MI
Atlanta, GA
Philadelphia, PA
Tampa, FL
Minneapolis, MN
Newport Beach, CA
San Francisco, CA

If you are looking for a career opportunity in a progressive firm, please send your resume with cover letter and geographical preference to:

Ms. Risé Kehyari
Director of Human Resources
2121 Hudson Avenue
Kalamazoo, MI 49008

We are 100% employee owned and provide flexible benefits, profit sharing, competitive salary, and much more. We are 35 years strong... talk to us and see what sets us apart!

MICHAEL LATAS
& ASSOCIATES

Executive search and professional recruiting services. Serving the construction industry exclusively nationally and internationally since 1975.

Your premier source for executive, managerial, and difficult-to-fill professional-level needs. Contact our Architecture/Engineering Division.

MICHAEL LATAS & ASSOCIATES
1311 Lindbergh Plaza Center
St. Louis, MO 63132

(314) 993-6500 • Fax: (314) 993-0632
(800) 280-7811 • http://www.Latas.com

LABARGE ENTERPRISES

REGISTERED ARCHITECTS AND ARCHITECT ENGINEERS' FOR DESIGN-BUILD PROJECTS IN TV-BROADCAST STUDIOS, HOSPITAL AND HEALTH CARE, E-COMMERCE BUILDINGS DATA PROCESSING AND CALL CENTERS AND TELECOMMUNICATION FACILITIES. POSITIONS NATIONWIDE — FAX 972-980-0090 WEBSITE WWW.HARDHATJOBS.COM

INTERN 1

Basic rate of pay: $12.00 per hour/$18.00 overtime. Duties will include: prepare construction documents, perform site planning, programming/feasibility studies, integrate structures, mechanical, electrical, plumbing, acoustical systems into building envelope, coordinate interior/exterior building requirements, review building for code compliance, assist project manager with specifications. Applicant must have a 5-year Bachelor of Architecture from an accredited school. 18 months experience in use of AutoCAD and Softdesk, and 1-year experience in 3-D modeling and rendering using AutoCAD and Photoshop. Experience required can be gained concurrently and can be gained on the job during academic training. Resume/cover letter must address each and every requirement or the application will be rejected. Applicant must have legal authority to permanently work in the United States. Send resume/cover letter to: Employment Department, Attn: Job Order Number 5551971, 875 Union Street N.E., Room 201, Salem, Oregon 97311.

INTERN ARCHITECTS

Several senior and entry-level positions available for qualified candidates possessing MS/BS or equivalent and relevant work experience. Work with AutoCAD 14, Form Z and 3D Studio. Must be willing to travel and relocate as required. Fax resume to The Smithgroup, HR Dept: Bill Kline, (703) 318-5001.

SENIOR ARCHITECT

Wanted by architectural firm in Santa Monica, CA. Must have BS in Architecture & 2 yrs architectural exp. Respond to: HR Dept. Frank O. Gehry & Associates, Inc., 1520-B Cloverfield Blvd., Santa Monica, CA 90404.

ARCHITECT

Wanted by NYC firm to deal primarily with Korean clientele. Must have Bach in Architectural Eng or related field and exp in architecture. Respond to: HR Dept, Kohn Pedersen Fox Associates PC, 111 West 57th St., New York, NY 10019.

PROJECT ARCHITECT

Project Architect sought by Philadelphia, PA co. involved in architecture, urban planning & architecture restoration. Must have Bach (or equiv) in Architecture & 3 yrs exp conducting historic restoration projects including experience in ecclesiastical structures. Respond to: Dan Peter Kopple, DPK&A Architects, LLP, 421 Chestnut St, Philadelphia, PA 19106-2416.

FACULTY POSITIONS VACANT

PROJECT MANAGER/SENIOR ARCHITECT

The Univ of CA - Irvine (UCI) is a nationally recognized instit within the Univ of CA syst, with a challenging facil dev prog needed to support its acad. & resrch missions. 8 yrs of arch'l exp & CA registration (or capability of obtaining registr within 1 yr); BA in Arch or related field; or any equiv comb of exp, training &/or educ approved by D&CS. This PM/Sr. Arch. will manage & lead proj dev teams comprised of Univ entities & outside consultants. Exp in classrms, labs (wet & dry), res halls, athletic & med facil. Value eng. adherence to sched & budget, & contract nego & admin exp is essential. Sal up to $75,000. Pos open until filled. Submit resume to: UCI-Design & Construction Services, Attn. J. Oehring, 3500 Berkeley Pl., Irvine, CA 92697-2450 EEO/AA/ ADA Employer.

TO REPLY TO BOX NUMBERED ADS

Address a separate envelope (smaller than 11" x 5") for each reply to:

(Key Number From Ad)
Architectural Record
PO Box 900 • NY, NY 10108

COMPUTER SERVICES

Power, Functionality & Attention to Detail

14

FLATLAND 6

...Abundant 2D Tools; Easy to Learn and Use...
...Powerful and Useful...
Cadalyst Magazine, October 1996

Call (800) 247-2032 for Free Working Demo

FLATLAND 6... Serious Two Dimensional Drafting for Building Design Professionals

Ashcraft Architectural Computer Graphics
[illegible] Glen Street, Glens [illegible], NY 12801 (518) 798-4631 (800) 247-2032

CIRCLE 186 ON INQUIRY CARD

SPECIAL SERVICES

www.woodwindows.com

GreenwayGroup (800) 726-8603
www.GreenwayGroup.net

Premier Research, Consulting and Publishing for A/E/ID/C Entrepreneurs

STRATEGIC PLANNING • SURVEYS & RESEARCH • EXECUTIVE SEARCHES
MARKET ANALYSIS • SUCCESSION PLANNING • MEETING FACILITATION
Belief in a "better way" to achieve business and personal success.
Washington, D.C. • Atlanta, GA • Chicago, IL • Since 1982

3D MODELS

Architectural Communications provides architects, engineers, planners, and developers with 3D models ranging from planning to presentation models. We are constantly evolving and as such are interested in any project, no matter how bizarre. To discuss a project, Tel. 315-725-3013.

RENDERINGS

ARCHITECTURAL RENDERINGS

Fortune 500 clientele, Watercolor: 11" x 17" $980 + tax, 3 days. 16" x 22", $2,399 + tax, 5 days. Visa, MC, AmEx. Mayron Renderings, (212) 633-1503 or (800) 537-9256. Email: mayronrend@rcn.com

OFFICIAL PROPOSALS

REQUEST FOR LETTERS OF INTEREST

Requested are letters of interest for the design of a new Art, Design & Architecture building and library expansion for Judson College (an evangelical Christian college of the liberal arts and professions in Elgin, 40 miles west of Chicago). Respond by July 15 to: Chair, Architect Search Comm., Dept. of Architecture, Judson College, 1151 N. State St., Elgin, IL 60123

YOUR BOTTOM LINE SHOULD LOOK THIS GOOD.

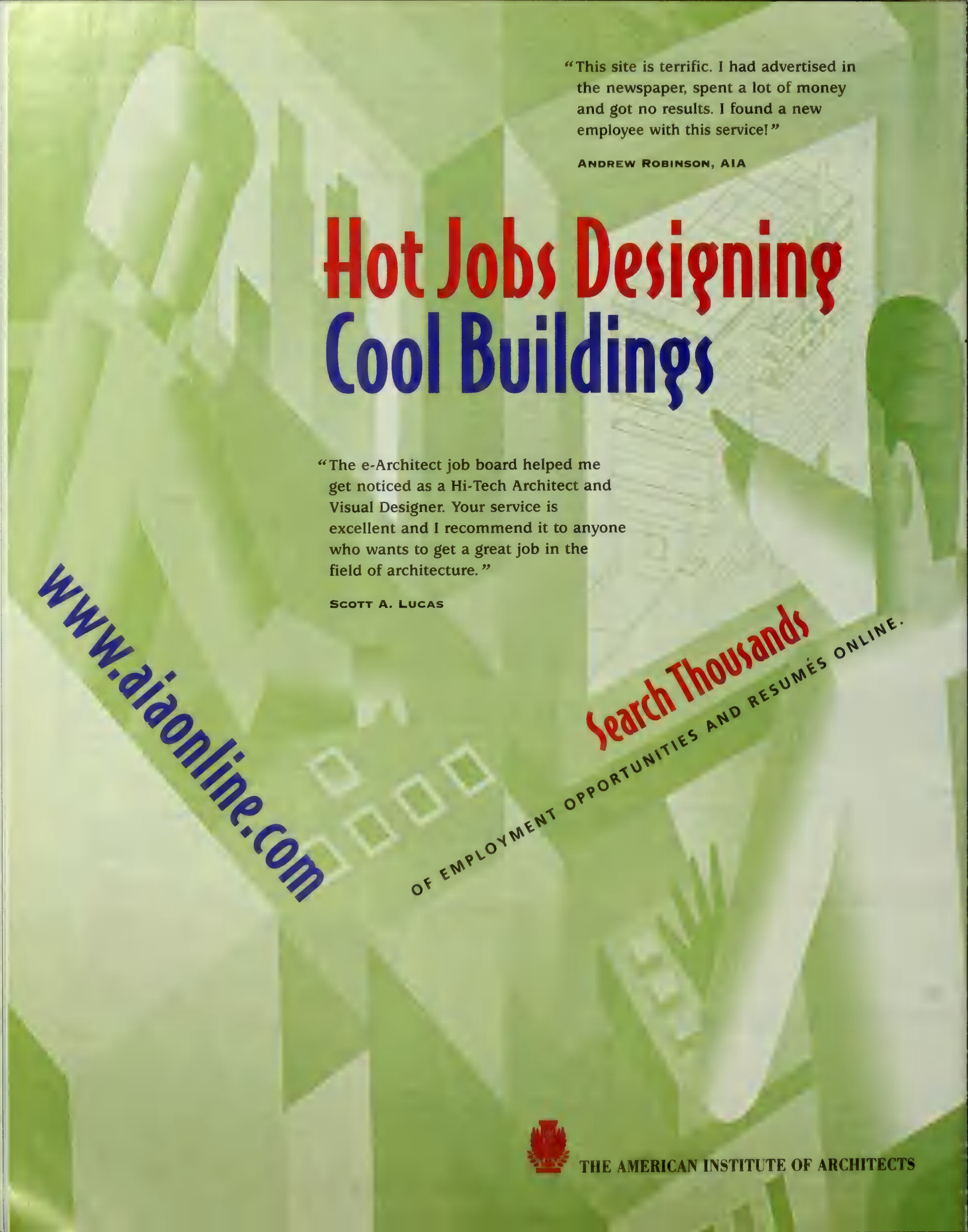
BoxOffice By Design has a full line of innovative, affordable designs for your home office. The beauty of all wood. The value of superior quality. The functionality of great design. All yours, assembled from box to beautiful, in one minute. Best of all, you don't need a single tool. It's a whole new way of thinking.

Look for us at NeoCon 2000. Booth 725, 2nd floor

BOXOFFICE™
BY DESIGN

www.boxofficebydesign.com • For a dealer near you call 888.269.6788

CIRCLE 114 ON INQUIRY CARD



"This site is terrific. I had advertised in the newspaper, spent a lot of money and got no results. I found a new employee with this service!"

ANDREW ROBINSON, AIA

Hot Jobs Designing Cool Buildings

"The e-Architect job board helped me get noticed as a Hi-Tech Architect and Visual Designer. Your service is excellent and I recommend it to anyone who wants to get a great job in the field of architecture."

SCOTT A. LUCAS

www.aiaonline.com

Search Thousands

OF EMPLOYMENT OPPORTUNITIES AND RESUMÉS ONLINE.

THE AMERICAN INSTITUTE OF ARCHITECTS

Anything worth building, cannot be built alone.

hrough a dedicated sharing of resources, unprecedented collaboration and laser-like focus, ECdirect and its partners have developed a site stacked with information and resources at will help the industry build a whole new way.

his summer, we'll introduce you to a site that will dramatically change how you work nd collaborate by providing ways to create efficiencies in the entire design and building rocess. From enhancing proven tools like MASTERSPEC® to developing the industry's rgest online education catalog, we're creating the ultimate online work site for the esign and building industry.

AECdirect

AIA

BENTLEY

CMDGROUP

The McGraw-Hill Companies

CIRCLE 109 ON INQUIRY CARD

Designed to build.

www.aecdirect.com

Iara Lee is plugging architecture into the music scene.

Interviewed by Clifford A. Pearson

Iara Lee, a 34-year-old Brazilian filmmaker now based in New York, is the impresario behind the Architettura *series of music CDs. Launched last year by Lee's Caipirinha Music label, the series features electronic music interpretations of works by architects such as Ito, Hasegawa, Grimshaw, and Niemeyer. Lee's credits include running the São Paulo International Film Festival for five years; directing* Synthetic Pleasures, *a film about "all things artificial"; and* Modulations, *a documentary on electronic music. Like the Brazilian cocktail for which she named her company, Lee mixes some potent ingredients.* RECORD *kicked back with her in New York.*

Q: *How did you move from film to music and then architecture?* I saw that with the Internet and new technologies, different media were coming together. In the past, you were a musician or a filmmaker or whatever. Now categories and industries are bumping into each other.

What has been the reaction from architects to your work? The fact that I come from a different field has opened doors for me. If I came from architecture and just called up Norman Foster or Tadao Ando, I don't think they would be so receptive. But being a filmmaker, I contact them and they immediately get excited about cross-fertilization with another industry.

What's the connection between architecture and music? Every physical environment emanates particular sound experiences and emotions—whether they're claustrophobia, awe, or romance. In the Philips Pavilion at the 1958 World's Fair in Brussels, Le Corbusier and the Greek musician Xenakis explored these connections, collaborating with composer Edgar Varèse on a piece they called a "poème électronique." I wanted to do a contemporary version of this collaboration between environment and music. Moving from one field to another can be risky, though. You can be an accomplished architect, for example, but have very cheesy taste in music. Some artists are daring in their own field but conservative in others. So I'm never sure how architects will react to music. We're working on a CD now with Tadao Ando for his Water Temple and I was really nervous when we sent him the music we wanted to use. It's very experimental. But he was really comfortable with it.

Do you start with the architecture or with the music? It works both ways. For the first two CDs—Ito's Tower of Winds and Grimshaw's Waterloo Terminal—we asked musicians to look at particular buildings and write compositions for them. Then on the third volume, David Toop, an English musician, saw Hasegawa's Museum of Fruit on a trip to Japan and got excited about the project and its controlled environment—trees growing indoors at the foot of Mt. Fuji. He brought it to our attention.

What are your plans for the Architettura *series?* I hope to do 10 CDs. Then it will mutate into something else. So far we've worked with established architects, who've lent the series their prestige. But I'd like to work with younger architects and be more adventurous. We've done that with musicians, giving unknown artists their first break. I think I have a knack for recognizing emerging talent.

You're doing films, CDs, videos, and books. Is this the future? I like integrating categories, not separating them. But I don't want to be the art version of McDonald's—asking people, 'Would you like fries and a CD with that?'

Photography: André Souroujon

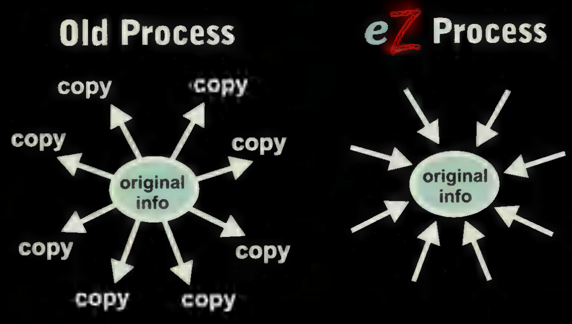
eZ

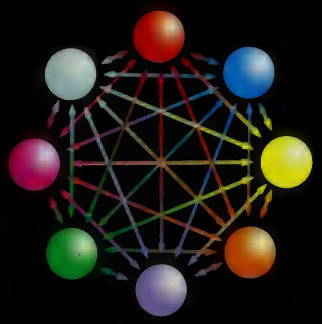
direct internet technology

eZ is a revolutionary new technology that makes direct PC-to-PC connections from multiple sites anywhere across the internet, wide area network, or local area network. This direct connection allows quick and easy "Real Time" collaboration on files that never leave your control.

Control of Information

eZ allows everyone to collaborate directly on the computer where the information is hosted, with no need to distribute multiple copies of the original.



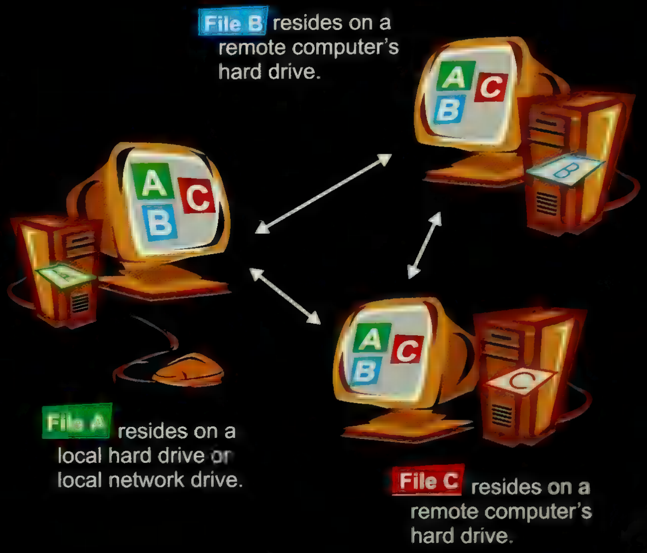


Direct Connection

eZ allows users to make direct PC-to-PC connections to each other through the internet or network. The connection is simple, easy and fast.

Multi-Site Hosting with Multiple File Types

Different types of files can be shared simultaneously from multiple locations with each conference member able to be a host and client at the same time.



File B resides on a remote computer's hard drive.

File A resides on a local hard drive or local network drive.

File C resides on a remote computer's hard drive.

Total Enterprise Solution

Global - eZ uses the internet as a global network, providing true PC-to-PC connections.

Local - eZ can be used to collaborate on documents over a LAN, WAN or VPN.

Individual - eZ can be used as a stand-alone viewing and mark-up tool on individual PCs.

www.eZmeeting.com

1-888-990-0900

CIRCLE 38 ON INQUIRY CARD

Cambridge, Massachusetts 02138

Telephone 800 OK KROIN
Telefax 617 492-4001

complemented by Kroin sanitary fittings
in 18 masterful colors.

Design: Professor Arne Jacobsen, MAA
Selected for the Design Collection, MoMA.

For information Circle 100.

ctural Record
ly

ITECTURA
RECORD

BURLINGAME PUBLIC LIBRARY
3 9042 05168332 1

Cool in Spain

Hot in Holland

Europe's Creative Climate

ntiago Calatrava Sets the World in Motion

Rem Koolhaas Heightens the Power of Ideas

Special Section: RESIDENTIAL

BURLINGAME
JUL 17 2000
LIBRARY

Spot the two terms
that don't go together:
1. Suspended Ceiling
2. Grid-hiding Visual
Until now.

CEILING SYSTEMS

[Between us, ideas become reality.™]

Introducing Optima Vector™, the revolutionary new acoustical ceiling with virtually no visible grid.

With Optima Vector, now you can achieve a clean, nearly monolithic look in a downward access suspended ceiling. That's because the unique Vector* edge detail provides a sleek $\frac{1}{4}$" reveal that minimizes the existing grid. In fact, the larger the expanse of open plan ceiling, the more effectively the grid disappears, leaving you with a grid-hiding, upscale visual. It works with existing standard $\frac{15}{16}$" grid systems, which makes it perfect for renovations – avoiding costly, time-consuming grid removal, replacement or repainting. And because Optima Vector is a high performance open plan ceiling, you can count on superior sound absorption, light reflectance and durability.

Suspended ceiling. Grid-hiding visual. Now together, from Armstrong.

For more information, call 1-888-CEILINGS or visit our website at www.ceilings.com

*Patent Pending

Armstrong

CIRCLE 1 ON INQUIRY CARD

40 STORY
DREAM
600 BOARD FEET
OF FAXES
4000 CUBIC YARDS OF
MEETINGS
EXPANDING
SCHEDULE
SHRINKING BUDGET

NEED HELP BUILDING
WHAT YOU DESIGNED
IN THE FIRST PLACE?

buzzsaw.com™
an Autodesk® venture

Soon to be your favorite design tool: a secure project website that helps turn plans into buildings. A central workplace that links your designs directly to the construction team. From design to bidding to buying and overall construction management, it's all in a day's work at Buzzsaw.com.

[illegible] and the Buzzsaw.com logo are trademarks of Buzzsaw.com, Inc.

ARCHITECTURAL RECORD

07.2000

Town Hall near Madrid, photograph © Eduardo Sánchez López + Angel Baltanós Ramírez (above). The Minnaert Building in Utrecht, Holland, photograph © Christian Richters

News

28 **New Koolhaas urban park**
30 **Hannover Expo 2000**

Departments

17 **Editorial: Gone digital***
20 **Letters***
53 **Correspondent's File: Paris** *by Claire Downey*
57 **Practice Matters: Insurance rates rising** *by Charles Linn,* AIA*
59 **Critique: Architectural media: Influence or not?** *by Neil Denari*
63 **Snapshot: Spanish bathhouse pavilion** *by David Cohn*
72 **Profile: Iole Allessandrini***

Features

70 **Calatrava speaks** *by Robert Ivy,* FAIA*
Santiago Calatrava reveals why dignity, daring, rhythm, and a sense of place make his work extraordinary.
92 **Rem Koolhaas and OMA** *by Michael Speaks*
The Pritzker Prize winner leads Dutch architecture onto new turf.

Projects

05 **Project Introduction: Hot and Cool** *by Robert Ivy,* FAIA
06 **Instituto Hispano-Luso, *Zamora, Spain*** *by David Cohn*
Manuel de las Casas
A Gothic convent and a modern structure come together.
14 **San Fernando de Henares town hall, *Madrid,*** *by David Cohn**
Juan Carlos Sancho Osinaga & Sol Madridejos Fernández
Intersecting blocks and voids become a town hall with two faces.
20 **Indoor swimming pool, *Madrid*** *by David Cohn**
Luis Moreno Mansilla & Emilio Tuñon
At a pool wrapped in a concrete lattice, light dances on water.
24 **Pedestrian bridge in Petrer, *Spain*** *by Dominique Tomasov,* AIA
Carme Piños Studio
Spanning a parched terrain, a footbridge synthesizes land and man-made structure while connecting communities.
28 **In Holland: The shock of the new** *by James S. Russell,* AIA*
Dutch projects: Can a new architecture of aggressive individualism take root in a famously consensus-driven culture?

Building Types Study 787

147 **Essay: The Sky's the Limit** *by Thomas Mellins*
150 **Kuala Lumpur International Airport, *Malaysia*** *by Thomas Campanella**
Kisho Kurokawa Architect & Associates and Akitek Jururancang
158 **San Diego International Airport, *Calif.*** *by Alice Y. Kimm**
Gensler and SGPA Architecture
162 **Shanghai-Pudong International Airport, *China*** *by Thomas Campanella**
Aéroports de Paris Architectes et Ingénieurs

Building Science & Technology

171 **Cladding buildings with multiple glass skins**
*by Werner Lang and Thomas Herzog**
185 **Tech Briefs**
189 **Digital Architect: New technologies for old buildings**
by Jerry Laiserin, FAIA*

Residential

201 **Residential Intro** *by Wendy Talarico*
202 **Residential Briefs**
204 **Roddy Bale residence, Bellevue, *Wash.*** *by Sheri Olson,* AIA*
The Miller/Hull Partnership
210 **Fitch/O'Rourke residence, *Washington, D.C.*** *by David Dillon**
Robert M. Gurney, AIA
218 **Schuylkill house, *Philadelphia*** *by Thomas Hine**
M. Finney Design
224 **Hester/McNally residence, *Berkeley, Calif.*** *by Lisa Findley**
Arkin Tilt Architects
231 **Residential Products**

Products

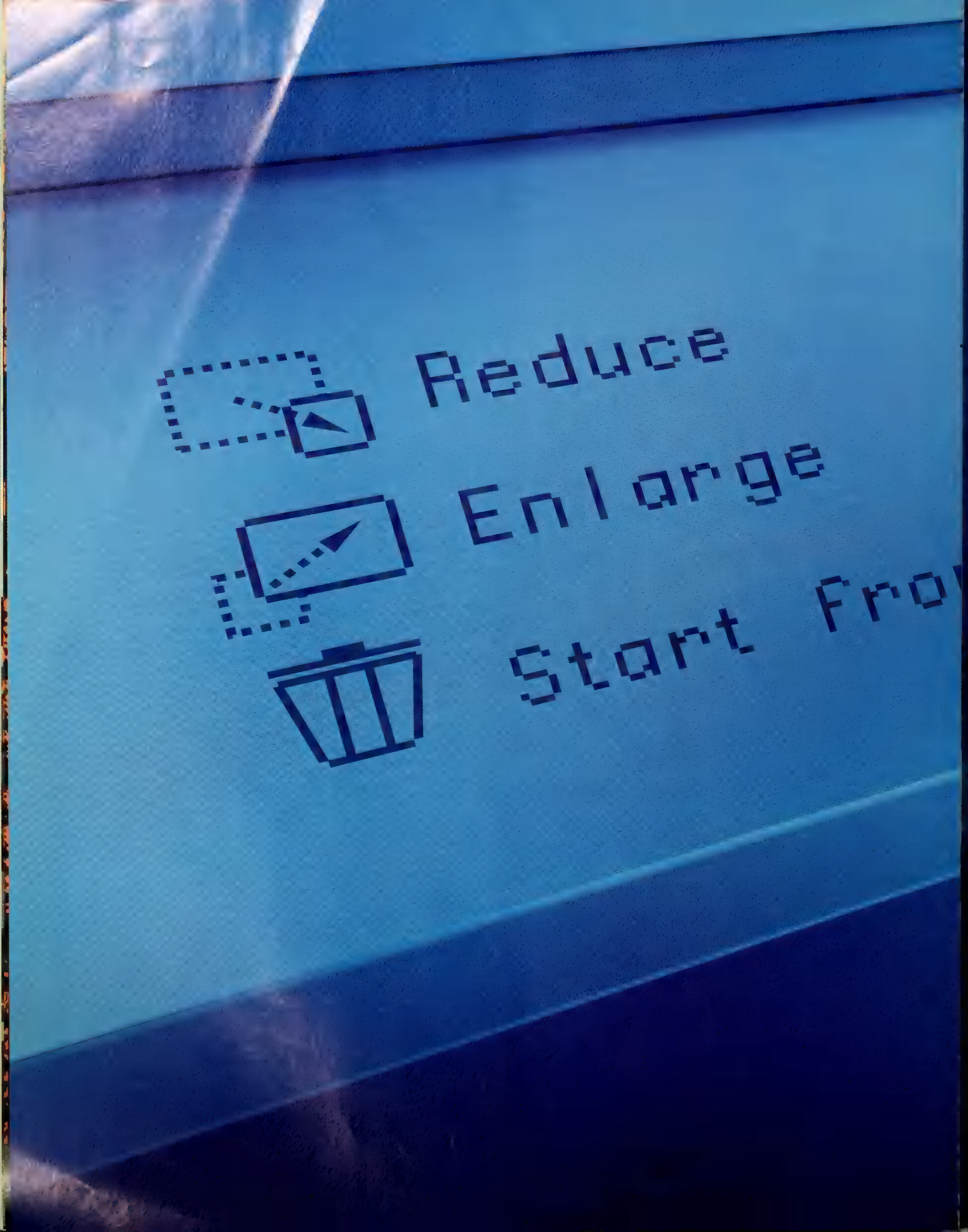
235 **Glass and Glazing**
241 **Product Briefs**
248 **Product Literature**

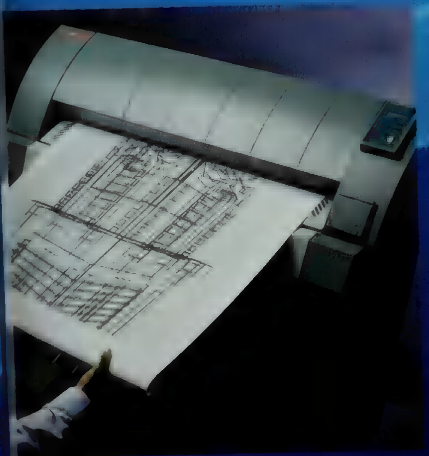
48 **What's at architecturalrecord.com**
51 **Dates/Events***
198 **AIA/CES Self-Report Form***
201 **Reader Service***
206 **Manufacturers' Spotlight**
210 **Classified Advertising***

WWW * You can find these on our Web site at www.architecturalrecord.com, your source for more information on featured projects, an index of past articles, and more. Featured this month: an expanded interview with Santiago Calatrava.

The AIA/architectural record continuing-education opportunities e "Cladding Buildings in Multiple Glass ins" [page 171]; "Vinyl by Design," [page 2], sponsored by the Vinyl Institute.

over: *Holland's Haarlemmermeerpolder district. Photo © Theo Baart. Top inset photo of Town Hall near Madrid © Eduardo Sánchez López + Angel Baltanós Ramírez. Bottom inset photo of the Dutch Pavilion at Expo 2000, Hannover © Robert Hart.*


Reduce
Enlarge
Start Fro



Print changes almost as fast as your client can make them.

You've got a 20-story building and the client just made 25 changes. Enter Kinko's A to E prints. They're available in a variety of paper stock, including bond and vellum, and output at up to 300 DPI quickly and easily by top-of-the-line printers. They can be printed while you wait, or picked up and delivered within 24 hours. So you can get back to doing what you do best: designing, redesigning and designing again.

Products and services vary by location. All marks appearing are proprietary marks of Kinko's Ventures, Inc. and are used by permission. Kinko's requires written permission from the copyright holder in order to reproduce any copyrighted work. ©2000 Kinko's, Inc. All rights reserved.

PRINT FROM DISK
DIGITAL PRINTING
COMPUTER WORKSTATIONS
ELECTRONIC FILE SUBMISSION
MOUNTING
LAMINATING
BINDING
MANUALS & REPORTS
PRESENTATIONS
HIGH-VOLUME COPIES
FLYERS & BROCHURES
HIGH-SPEED INTERNET ACCESS
SHIPPING SERVICES
PICKUP & DELIVERY
FULL- & SELF-SERVE

LARGE FORMAT PRINTING

kinko's®
www.kinkos.com Open 24 hours

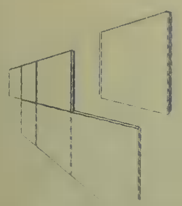
CIRCLE 2 ON INQUIRY CARD

Natural instincts

The most subtle hint of texture. The softest tones from nature's palette. An element of environmental interest and intrigue. It speaks to us. And it becomes part of us.

CIRCLE 3 ON INQUIRY CARD

Marlite Modules™ are 2' square panels, designed to represent the custom look of millwork without the high cost. The panels, featuring the exclusive Marlite finish, are available in a variety of naturally inspired woodgrains and contemporary patterns. Contact us today to learn more about how Marlite Modules could help inspire you.



Installed with adhesive.
Modified tongue and groove joinery
hides unsightly joint lines.

Marlite
(330) 343-6621 Fax: (330) 343-7296
.marlite.com e-mail: info@marlite.com

ARCHITECTURAL RECORD

EDITOR IN CHIEF	Robert Ivy, FAIA
MANAGING EDITOR	Ingrid Whitehead
DESIGN DIRECTOR	Anna Egger-Schlesinger
SENIOR EDITORS	Charles Linn, AIA Clifford Pearson Wendy Talarico Sarah Amelar
NEWS EDITOR	John Czarnecki
PRACTICE EDITOR	Elizabeth Harrison Kubany
PRODUCTS EDITOR	Rita F. Catinella
COPY EDITORS	Elizabeth Kugler, Lisa Rosman
WEB CONTENT EDITOR	Kevin Lerner
ASSOCIATE ART DIRECTOR	Kristofer E. Rabasca
ASSISTANT ART DIRECTOR	Clara Huang
PRODUCTION COORDINATOR	Juan Ramos

EDITOR AT LARGE	James S. Russell, AIA
SPECIAL CORRESPONDENT	Suzanne Stephens
ILLUSTRATORS	Muriel Cuttrell, Kira Eng, I-Ni Chen
CONTRIBUTING EDITORS	Robert Campbell, FAIA, Andrea Oppenheimer Dean, David Dillon, Blair Kamin, Jerry Laiserin, FAIA, Nancy Levinson, Lee Mitgang, Robert Murray, Sheri Olson, AIA, Nancy Solomon, AIA, Michael Sorkin, Tom Vonier, AIA, Lisa Findley
INTERNATIONAL CORRESPONDENTS	David Cohn, Claire Downey, Tracy Metz, Naomi R. Pollock, AIA

SPECIAL PROJECTS	Charles Pinyan, Paul Herrmannsfeldt
RESEARCH DIRECTOR	John Conkling
DIRECTOR OF PROMOTION	Deborah Smikle-Davis
FINANCE	Michael Florek, Shlomo Messinger
CIRCULATION	Maurice Persiani, Brian McGann
ADVERTISING PRODUCTION MANAGER	Stephen R. Weiss
ADVERTISING DIRECTOR	David Johnson
VICE PRESIDENT/PUBLISHER	Elaine Shusterman

EDITORIAL OFFICES: 212/904-2594 Editorial fax: 212/904-4256 E-mail: *rivy@mcgraw-hill.com.*
Two Penn Plaza, New York, N.Y. 10121-2298
WEB SITE: www.architecturalrecord.com
SUBSCRIBER SERVICE: 888/867-6395 (U.S. only). 609/426-7046 (outside the U.S.). Subscriber fax: 609/426-7087. E-mail: *p64ords@mcgraw-hill.com.* AIA members must contact the AIA for address changes on their subscriptions. 800/242-3837. E-mail: members@aia.org.
INQUIRIES AND SUBMISSIONS: Letters, R. Ivy, *rivy@mcgraw-hill.com*; Lighting, C. Linn, *linnc@mcgraw-hill.com*; Books, C. Pearson,*pearsonc@mcgraw-hill.com*; Technology, W. Talarico, *wendy_talarico@mcgraw-hill.com*; Record Houses and Interiors, S. Amelar, *sarah_amelar@mcgraw-hill.com;* Practice, E. Kubany, *elizabeth_kubany@mcgraw-hill.com*; Products, R. Catinella, *rita_catinella@mcgraw-hill.com;* News, J. Czarneki, *john_czarneki@mcgraw-hill.com;* Web Editorial, K. Lerner, *kevin_lerner@mcgraw-hill.com*

SUBSCRIPTION: Rates are as follows: U.S. and Possessions $59; Canada and Mexico $79 (payment in U.S. currency, GST included); outside North America $199 (air freight delivery). Single copy price $8; for foreign $10. Subscriber Services: 888/867-6395(U.S. only); 609/426-7046 (outside the U.S.); fax: 609/426-7087.
SUBMISSIONS: Every effort will be made to return material submitted for possible publication (if accompanied by stamped, self-addressed envelope), but the editors and the corporation will not be responsible for loss or damage.
SUBSCRIPTION LIST USAGE: Advertisers may use our list to mail information to readers. To be excluded from such mailings, send a request to ARCHITECTURAL RECORD, Mailing List Manager, P.O. Box 555, Hightstown, N.J. 08520.
OFFICERS OF THE MCGRAW-HILL COMPANIES: *Chairman, President and Chief Executive Officer:* Harold McGraw III. *Executive Vice President and Chief Financial Officer:* Robert J. Bahash. *Executive Vice President, Organizational Effectiveness:* Barbara B. Maddock. *Executive Vice President, Global Markets:* John D. Negroponte. *Senior Vice President and General Counsel:* Kenneth M. Vittor. *Senior Vice President, Corporate Affairs, and Assistant to the President and CEO:* Glenn S. Goldberg. *Principal Operating Executives:* Leo C. O'Neal, *President, Standard & Poors;* Vasant Prabhu, *President, Information and Media Services;* Robert E. Evanson, *President, Educational and Professional Publishing Group.*
MCGRAW-HILL CONSTRUCTION INFORMATION GROUP: Norbert W. Young, Jr., FAIA, *President*

COPYRIGHT AND REPRINTING: Title ® reg. in U.S. Patent Office. Copyright © 2000 by The McGraw-Hill Companies. All rights reserved. Where necessary, permission is granted by the copyright owner for libraries and others registered with the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, Mass. 01923. To photocopy any article herein for personal or internal reference use only for the base fee of $1.80 per copy of the article plus ten cents per page, send payment to CCC, ISSN 0003-858X. Copying for other than personal use or internal reference is prohibited without prior written permission. Write or fax requests (no telephone requests) to Copyright Permission Desk, ARCHITECTURAL RECORD, Two Penn Plaza, New York, N.Y. 10121-2298; fax 212/904-4256. For reprints call 609/426-5129 or fax 609/426-7087. Information has been obtained by The McGraw-Hill Companies from sources believed to be reliable. However, because the possibility of human or mechanical error by our sources, The McGraw-Hill Companies or ARCHITECTURAL RECORD does not guarantee the accuracy, adequacy, or completeness of any information and is not responsible for any errors or omissions therein or for the results to be obtained from the use of such information of for any damages resulting therefrom.

PRINTED IN USA

Architectural Record
McGraw-Hill Construction Information Group
A Division of The **McGraw-Hill** *Companies*

ABC MPA

THE AMERICAN INSTITUTE OF ARCHITECTS 2000 BOARD OF DIRECTORS ▪ OFFICERS: *President:* Ronald L. Skaggs, FAIA; *First Vice President:* John D. Anderson, FAIA; *Vice Presidents:* Linda Searl, FAIA, Gordon H. Chong, FAIA, J. Richard Kremer, AIA; *Secretary:* Stephan Castellanos, FAIA; *Treasurer:* Harry Rutledge, AIA, RIBA • **REGIONAL DIRECTORS:** Roy Abernathy, Assoc. AIA, Jerry Abramson, Harold L. Adams, FAIA, RIBA, JIA, John Reid Benson, AIA, Bruce E. Blackmer, AIA, Derek Bradford, AIA, Timothy G. Cahill, AIA, Stephan Castellanos, AIA, Lugean L. Chilcote, FAIA, Donald M. Comstock, AIA, John F. Corkill Jr., AIA, Ben R. Darmer, FAIA, Richard Farson, PhD, Thomas G. Fernandez, AIA, Richard L. Ford Jr., AIA, John P. Franzen, AIA, James Gatsch, AIA, Holly K. Gerberding, AIA, Eugene Hopkins, FAIA, Timothy D. Kent, CAE, Edward Kodet Jr., FAIA, Lawrence R. Livergood, AIA, Kenneth Maynard, FAIA, David Messersmith, FAIA, Melissa Mileff, Barbara A. Nadel, AIA, Robert L. Newsom III, FAIA, Thompson E. Penney, FAIA, Michael L. Prifti, AIA, Angel C. Saqui, FAIA, Larry M. Schneider, AIA, Katherine L. Schwennsen, AIA, Wayne D. Silberschlag, AIA, Bill D. Smith, FAIA, Marvin J. Sparn, FAIA, Douglas L. Steidl, AIA, Ward Whitwam, AIA, David L. Wooley, AIA, Steven Winkel, FAIA; *CACE Representative:* Timothy D. Kent, CAE; *AIAS Representative:* Melissa Mileff ▪ **AIA MANAGEMENT COUNCIL:** Norman L. Koonce, FAIA, *Executive Vice President/CEO,* Jim Dinegar, *COO;* Richard J. James,*CFO;* Chuck Hamlin, *Managing Director, AIA Communications;* Brenda Henderson, *Managing Director, AIA Component Relations,* Dale R. Ellickson, FAIA, *Managing Director, AIA Contract Documents;* Lisa Blackwell, *Managing Director, AIA Government Affairs;* Laura Eide, *Managing Director, AIA Human Resources;* Kimberly Allen, *Managing Director, AIA Knowledge Center;* Kenna Wood, *Managing Director, AIA Marketing and Research;* John Gaillard, *Managing Director, AIA Meetings and Events;* Nancy Somerville, Hon. AIA, *Managing Director, AIA Membership Systems;* Michael Copp, *Managing Director, AIA Professional Practice;* Helene Combs Dreiling, FAIA, *Managing Director, AIA Stakeholder Relations;* Philip D. O'Neal, *Managing Director, AIA Technology.*

Shelter is easy. Exhilaration is not.

This is your calling. To create an intriguing space. At your mercy are long-lasting windows that go far beyond wood and gla

©2000 Weather Shield Mfg., Inc.

Weather Shield
Windows & Doors

CIRCLE 4 ON INQUIRY CARD

your specs to create a refuge that livens things up. Call 1-800-477-6808 x2339 or visit us at weathershield.com See the light.™

ATLANTIS RESORT: Paradise Island, Bahamas
ARCHITECT: Wimberly Allison Tong & Goo
OWNER/DEVELOPER: Sun International Hotels Ltd.
PRODUCT: Azurlite® Glass

We both know it's important that a building use the best technology available. And that energy efficiency, even in paradise, can make or break a project. Still, a building makes its mark with knockout looks.

You've never forgotten that great architecture is about great design. And neither have we.

PPG Architectural Glass gives you the most advanced glass technology you can imagine. So you can spend your time creating stunning buildings. PPG offers you a vast array of styles and colors unmatched in the industry. Like PPG Azurlite® Glass, with its crisp, beautiful aquamarine appearance

to inspire you – and the energy efficiency that will inspire your client, too.

PPG Azurlite glass gives you an unmatched combination of desirable color, aesthetics, high visible light transmittance, low reflectivity and low shading coefficient.

See just how smart real beauty can be. Call the PPG Solutions Hotline today for your Azurlite Glass sample, 800-377-5267.

PPG | Glass Technology
SINCE 1883

CIRCLE 5 ON INQUIRY CARD

visit our website @ www.ppgglass.com

Architect: HOK; Photo: Erhard Pfeiffer

The George Bush Presidential Library Center was insulated with Tuff-R®"C" because it was the most intelligent choice.

One more way to build on our knowledge

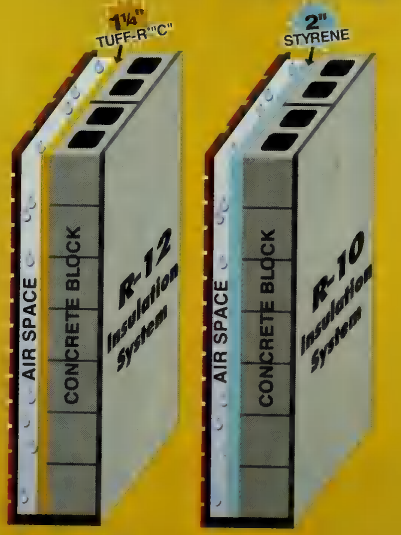
Original insulation specifications for the George Bush Presidential Library Center calling for 2 inch insulation board with an R-value of 10, were not cost efficient.

A specification change to **11/4 inch** Tuff-R®"C" Commercial Insulating Sheathing did even more than reduce cost. An additional **3/4 inch** dead air space in the cavity wall, coupled with the reflective foil facer yielded an additional 2.1 R-value for a combined total of **R-12.** According to the ASHRAE Handbook of Fundamentals, that's a 20 percent increase relative to the original specification.

The benefits don't even stop there. The additional air space allows **faster moisture evaporation** and ease of application increases **labor efficiency** as construction erection tolerances become less critical.

Tuff R®"C" is supported by a **15-Year Thermal Warranty.** For more information visit our learning center, Celotex Tech, at www.celotex.com, or call 1-800-CELOTEX. "We're the company you can talk to."

14 INCH CAVITY WALL SYSTEM



MORE AIR SPACE
HIGHER R-VALUE

Celotex

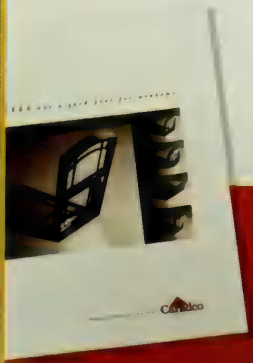
Build On Our Knowledge™

CIRCLE 6 ON INQUIRY CARD

CEILING TILES / SHINGLES / GYPSUM BOARD / RIGID FOAM INSULATION

© Celotex Corporation, 2/00

In 1866, we couldn't imagine offering 144,000 styles

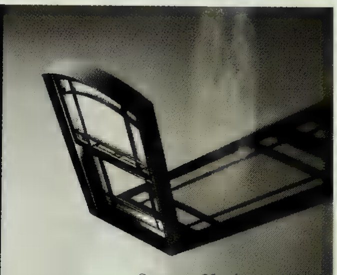


For a ***free brochure*** *and a dealer nearest you,*
call 1-800-238-1866 ext. C9, or visit ***www.cardaco.com***

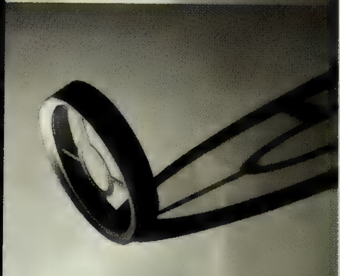
oday, we can't imagine anything less.

Back in 1866, our first wood windows had a lot of style. There just wasn't a lot of variety. But today, we have double-hung, casement, transom, radius, geometric, awning and sliding windows, as well as patio doors. In a huge variety of sizes. With primed wood or aluminum-clad exteriors. In five colors. Plus a wide range of divided lite patterns and options. That's 144,000 different choices. And those are just our standard windows. So if you want to give your clients the kind of choice they expect these days, give us a call. We'll help you give them more than they can imagine.

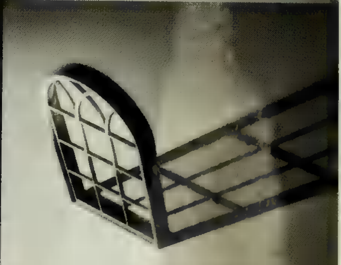
© 1998 JELD-WEN, inc. JELD-WEN and Caradco are registered trademarks of JELD-WEN, inc. Klamath Falls, OR.



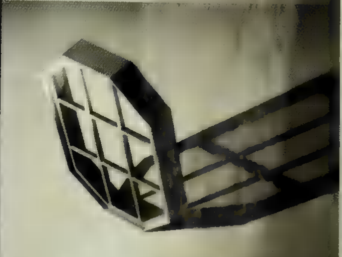
Segment Head Double-Hung



Oval



Standing Arch



Octagon

Windows for tomorrow. Since 1866.™

Caradco®

Part of the JELD-WEN® family

CIRCLE 7 ON INQUIRY CARD

CEILING SYSTEMS

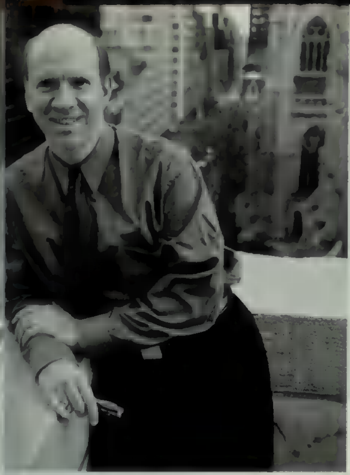
[Between us, ideas become reality.™]

LET YOUR IMAGINATION SOA

If you can envision it, we can help make it happen. Introducing our new Architectu
Specialties Group, a technically savvy service team that can collaborate with you
designing custom ceiling applications that will redefine the ceiling plane. And offer
you all new visual options with Armstrong WoodWorks™ and MetalWorks™ special
ceilings. Call us today at 1-888-207-2321 or visit www.ceilings.com. And find out
Armstrong can work with you to turn ideas into realities.

Armstrong

CIRCLE 8 ON INQUIRY CARD



Gone digital

Editorial

By Robert Ivy, FAIA

To read Robert Ivy's July editorial, visit our newly redesigned website at www.architecturalrecord.com. Next month it will be back in print, as well as on the Web.

Robert Ivy

Courtney Sloane
President & Creative Directo
Alternative Design

ere's a

ing of the

d. The voice of the new mainstream is diverse.
We have to catch it, tap into it,
and show what time it is.

Court

DUPONT

Antron®. Innovate.

CIRCLE 9 ON INQUIRY CARD

Learn more about Courtney Sloane and DuPont Antron® nylon carpet fiber at www.dupontcommercial.com

Antron® is a DuPont registered trademark for its brand of nylon carpet fiber. Only DuPont makes Antron®. © DuPont

Letters

Restoring viability

Kudos to the magazine for running such a grand article on the World Monuments Fund [May 2000, page 182], and congratulations to Mildred Schmertz on such a scholarly review of the manifold activities of this remarkable organization. As I've come to know the people who run this show, I'm amazed at the leverage they've managed to exert on those closest to these various monuments the world over. They and their sponsors are a beacon of light in the murky atmosphere of world monument preservation.

The article states: "Restoration must be technologically, financially, and politically feasible. . . . The basic criterion is viability."

I sponsored and organized an open house for the community on April 16, the 30th anniversary of the death of my father [Richard Neutra]. Laurie Beckelman, of WMF, made a special effort to come out to be our honored guest. I gave a commemorative talk, paying homage to my father and partner. About 400 people showed up, which was overwhelming.

What this illustrated is that there *is* great interest in the house and Cal Poly's plans for its future. In any case, it's time for others to step up to the plate and deliver in a meaningful way to optimize the real honor WMF has bestowed on this western outpost of modernism in the U.S.

The crux of the matter in the case of the Neutra House/studio comes down to "viability," as stated in the article. Will the community of Los Angeles—and indeed the world at large—be able to convince the university to support and implement an outreach program to identify the major funding needed for a $2 million endowment and for a $400,000 fund to do the immediate restoration needed?

—Dion Neutra
Los Angeles

Foreign competition, part II

"Competitions produce the highest quality design." This generalized statement in Mr. Karn's letter [April 2000, page 22] is, I fear, far from true. It does not correctly reflect the European experience.

The rather dull level of open design competitions here has been notorious, and it has, to a great extent, been responsible for Germany's lagging far behind the U.K. and France in design excellence. While there's no reason to condemn competitions out of hand, a critical appraisal shows that the best designs in Europe have not been obtained from open competitions. These have an overwhelming tendency to favor mediocre compromise. The outstanding work of Rogers, Foster, SOM, KPF, Meier, or Jahn (just to name a few) in Europe has in most cases resulted from direct commissions or from a choice among a few top-level offices.

Limited competitions or competitions with a second stage among acknowledged firms have proven to render superior results over general open competitions. The vast field of entrants in general competitions does not allow for a qualified selection process by the jury, and the best firms most often don't bother to participate.

Young architects have better chances to participate in the competition system by joining top-level firms and working their way up to leading positions there.

—Oswald W. Grube
Herrsching, Germany

Irrational architecture

In the May issue ["Separated at birth?" Letters, page 32], Leon Rosenthal expressed his dislike of Frank Gehry's method of expression, and he questioned whether Gehry's work would come to be classified as "great architecture." Mr. Rosenthal, if the world shared the your opinion concerning architecture, we would now and forever be drowning in a sea of marginal and aesthetically dull building types (look at the suburban quarters of Soviet cities or American suburbia).

Our duty as a profession is to break the barriers of prevalent public and private thought in order to make room for new ideas and physical examples in the field of architecture. It is a responsibility for the growth and prosperity of the human species that leads us to rationalize the irrational. It is what we, as a species, have been doing since discovering fire, the wheel, etc. What, then, of Gaudi and his then considered irrational use of the parabolic arc and structurally organic design in major buildings? What of Picasso's then-irrational use of color and the broken line? What of Goreki's interpretation of musical chords, considered irrational by most, even today? They, along with scores of others, were harbingers of new ways in which to view, interpret, and live in our environment.

In my opinion, building is the highest form of art. Like all art, it is a gift with a dual purpose: it serves to satisfy the conceiver and the recipient. In Frank Gehry's case, it seems as if both purposes have been fulfilled. Mr. Rosenthal, irrationality is soon overcome by precedent and example.

—Gregory Joseph Singletary
Via E-mail

Unwitty parody party

Your favorable review of Columbia's new Warren Hall [Lighting, May 2000, page 345] is very wide of the mark. This building in fact shows clearly the way NOT to go when building new buildings in a historic neighborhood with well-established style traditions. By trying to copy local colors and materials while adding what seem to be deliberately strange postmodern gestures, it ends up reading like a parody of Columbia's traditional architecture, and an unwitty parody at that. Its vast sloping light wall and weird bulbous roofline merely manage to be unsettling while serving no purpose that more traditional shapes would not have served equally well.

All in all, this building is a catalog of meaningless stylistic tics that fail to gel into anything resembling a coherent aesthetic, though the aspiration seems to be there. The building also fails to have any retail on the ground floor, further deadening the life of a street locally notorious for this problem. This is despite community protests to the contrary and the fact that if it had been an apartment building, zoning codes would have required it. All community reaction I have heard has been negative.

—Ian Fletcher
New York City

Viva Mexico

As a mexican architect I was pleased to see Ricardo Legorreta on the cover of the May edition—it is not easy to be recognized outside of your country. The article was a good tribute to his ideology. I would like to invite people interested in new ways to design buildings in Mexico to follow the work of such architects as Enrique Norten and Isaac Broid.

—Katia Rubio
Mountain View, Calif.

Off to camp

We were thrilled to see your call for hands-on architecture in the May 2000 editorial [page 23] . There is another program that exemplifies this effort to "satisfy that craving" for actualization: Masonry Camp. http://www.imiweb.org/imitoday/97_08/7pg3-1.htm. The "interdisciplinary collabo-

POI

point of inspiration

LIGHT AND SHADOW USUALLY TELL THE TRUTH. But sometimes, they'd rather tease. The Atelier Collection from Atlas Carpet Mills plays with light and shadow to create designs of unusual depth and 3-dimensionality. A unique tufting technology makes them rise up out of the floor to greet you, promising adventure on the trek from pod to coffee machine. And they're made of DuPont Antron® Legacy nylon, engineered to keep carpet highlights from getting dimmed by dirt. To see more innovations in carpet made of Antron®, check out *what's new* at www.dupontcommercial.com. Where shadows get their day in the sun. So to speak.

CIRCLE 10 ON INQUIRY CARD

Atlas

DUPONT

Antron®
Only by DuPont

ration in design and construction" you wrote so well about is the essence of Masonry Camp.

—Hazel Bradford
International Masonry Institute
Director of Communications

Shaken frames don't slide

Skimming backward through your February 2000 issue, I stopped at the arresting photo of an earthquake-stricken building on page 127.

Continuing back to pages 80–87, I saw more apparently earthquake-stricken structures, which on closer inspection turned out to be a university building by one of the current whiz kids.

As long as you give credence to these arbitrary, willfully nonconformist architectural giggles, you will continue to perpetuate the myth that architecture is just another "fine art" where a concoction of glue, string, newspaper headlines and pigeon droppings based upon a series of dreary platitudes is the flavor of the month.

I know that you are essentially running a newspaper, and that "man bites dog" always makes good copy.

But if you ever want to regain your now-sadly-lost reputation as a forum for serious consideration of buildings that recognize the planet's need for judicious use of materials and harmonious environments, rather than lauding cacophonous displays of personal whims, then you should stop praising naked emperors.

—Leslie Rebanks
Toronto

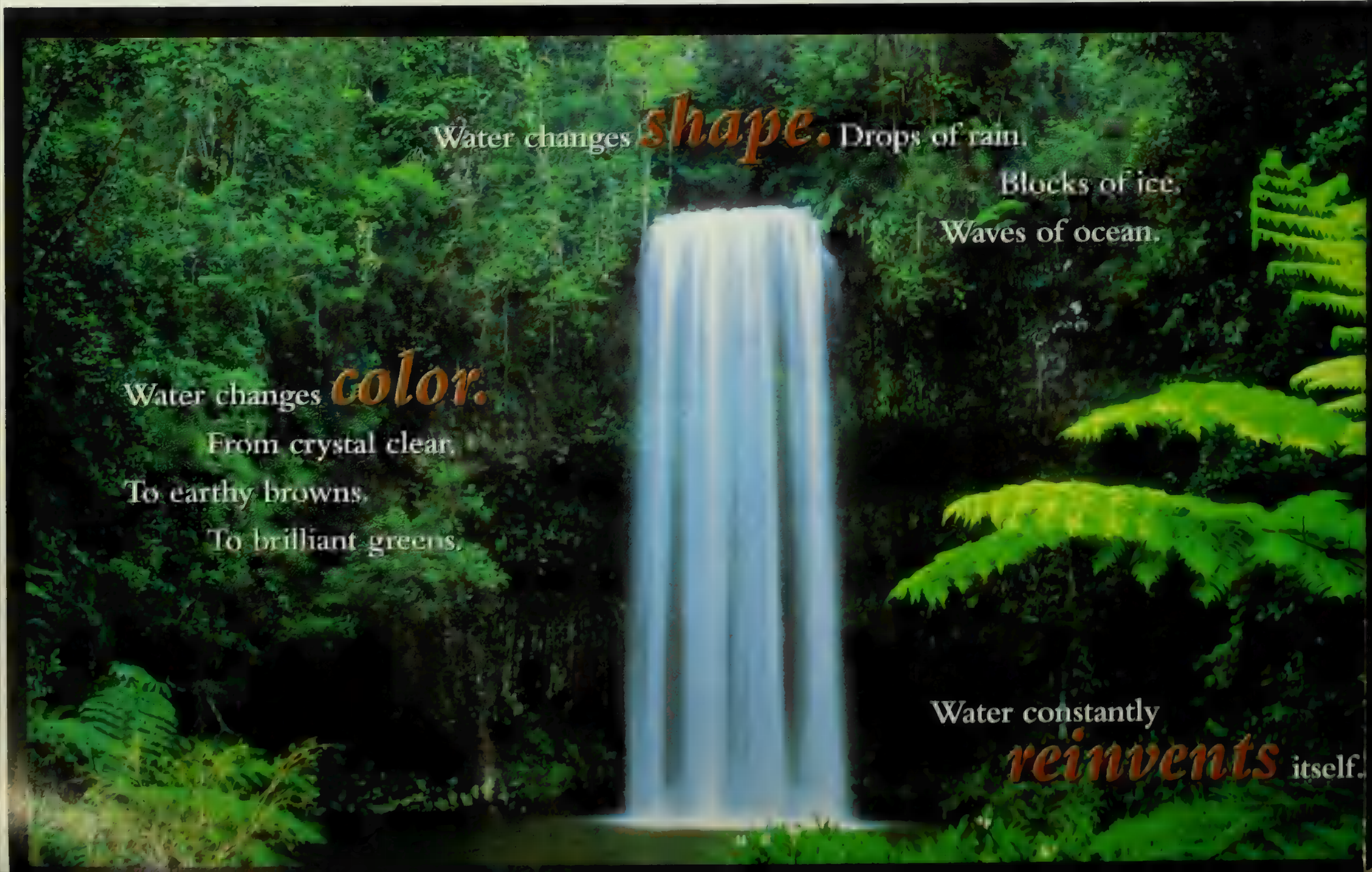
It's hip to be square

Whatever happened to the box? The Egyptians and Greeks thought it was okay. Even the Romans could not discard it, for all their pushing upward and outward with curved forms. The Goths kept pushing skyward, opening up the walls to let in more light. Renaissance Italians followed the Romans but decorated the box while pushing the boundaries. The Victorians tried everything that went before but still ended up with it. Moderns liked the box, but F.L.W. claimed that breaking out of it was one of his greatest achievements. Like the Goths, Mies wanted the walls of the box to disappear but he genuinely liked it. Postmoderns made it a goal to eliminate the box by first changing the skin; decorated, twisted, curved, angled, complex, contorted—anything *but* the box. But I miss the box. Think of how beautifully it fits into the grid city. Think of how it blends and harmonizes with its neighbors without shouting or screaming. Think of its economy. Think of how easy it is to find your way around it. Think of how only brilliance can change the box into art. Contemplate the deep aesthetic experience of simplicity, no gymnastics, no circus acts. Oh, how I miss the box!

—Gerald R.McSheffrey AIA
Glendale, Calif.

Troubled bridge over water

Reading the review of the proposed waterfront development adjacent to New York's Brooklyn Bridge in the June 2000 issue [page 32] made me wonder if the reviewer and I were examining the same master plan. The errors in fact and judgment begin with the statement that the park allows countless entry and exit points with spectacular Manhattan views. In fact, along the greatest length of the park, which abuts the landmark neighborhood of Brooklyn Heights, there is exactly one intermediate access point, and that has been bizarrely routed through a narrow residential side street unequipped to handle the increased traffic. The bio-wall described as "beautiful" is in actuality an out-of-scale, 45-foot-high looming mass that consumes valuable parkland, interrupts views, and turns a local street into a dangerous tunnel that no pedestrian would want to walk through. Nor has the process been as consistently "democratic" as you



describe. Once the public-comment ohase was over and a "final draft" naster B2 published, the planners oecame remarkably intransigent, gnoring several very valid criticisms put forth by local design rofessionals and citizens who vere responding to the published roposal. Far from being universally admired, this plan faces serious pposition and may go unrealized if itizens' concerns are not ddressed.

—Donald M. Rattner
ew York City

Falling down stairs

The diagram "elements of a safe tairway" on page 172 of your June ssue shows a very large radius on he nosing of the stairs and notes ts "gradually radiused nosing" but ives no explanation as to why this s desirable.

A number of years ago, I spent a few months on crutches, and on one occasion had to go down a set of monumental steps with just such a large-radius nosing. Because of the large radius on the nosing, I could not put the crutch tips out at the edge of the tread. When I went to step forward, my center of gravity got too far in front of the crutch tips and I went sprawling down the stairs. Fortunately, I was next to a railing and was able to catch myself and avoid serious harm. A smaller radius on the nosings would have prevented this accident.

—Eugene A. Groshong, Jr.
Alexandria, Va.

Corrections

The Correspondent's File in May 2000 [page 69] noted the Eric Owen Moss Stealth Office Complex will be the "home to Ogilvy & Mather." Actually, iShubin + Donaldson Architects is designing the space for Ogilvy & Mather. The photographer's credit was omitted on the photo published for the new Italian Chancery [April 2000, page 36]; the photographer was Daniel Mansfield for the Embassy of Italy.

The following credits did not appear in May 2000's piece on Ricardo Legorreta, FAIA, [page 149] College of Santa Fe Visual Arts Center/Architect: Legorreta Arquitectos—Ricardo Legorreta, Victor Legorreta, Noe Castro, Miguel Almaraz, Adriana Ciklik, Benjamín González, Javier Ten. Executive Architect: Lloyd & Tryk. On page 152: Seaside house in Japan/Architecture: Legorreta Arquitectos—Ricardo Legorreta, Victor Legorreta, Noe Castro, Adriana Ciklik, Miguel Almaraz, Jorge Covarrubias. Associate Architect: Kajima Design—Yukishige Miyamae, Atsu Wada. Consulting Architect: Crayon & Associates. Page 154: Los Patios Townhouses/ Architecture: Legorreta Arquitectos—Ricardo Legorreta, Victor Legorreta, Noe Castro, Miguel Almaraz, Adriana Ciklik, Gerado Alonso, Carlos Gerhard. Also in that article on page 156, the Hotel Camino Real in Ixtapa was mistakenly labeled as being on the Yucatán Peninsula. The hotel is actually in Ixtapa, Zihuatanejo, State of Guerrero, on the southwestern coast of Mexico. Also on page 158, the credit should have indicated that both photos are from Televisa Corporate Offices in Mexico City.

In the story about the Conde Nast Cafeteria [June 2000, page 116], project director Peter Black, from associate architect Mancini Duffy, was identified incorrectly, and Anthony Schirripa, a principal at Mancini Duffy, was left out as architect of record. Also, the article should have indicated that the glass used in the project was molded, then laminated.

*Letters may be E-mailed by clicking **Letters** on our Web site at **www.architecturalrecord.com**, or send letters directly to **rivy@mcgraw-hill.com**. RECORD may edit letters for grammar, style, and length.*

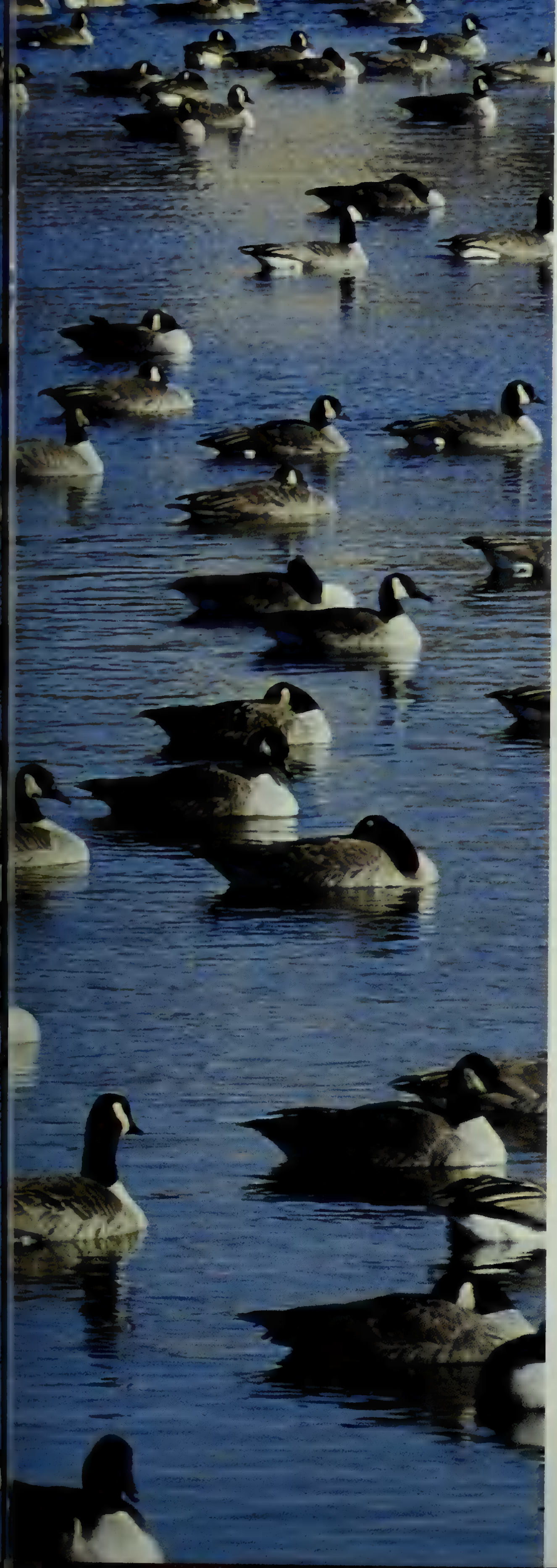
Copper is rugged, durable, malleable. It can be shaped into striking profiles or delicate patterns. Copper evolves. The sun, rain and air transform it into unique and surprising colors. The Copper Development Association has programs to help you work with this versatile metal. Design Assistance. Information Resources. Technical Specifications.

Whet your imagination. Explore copper and its many alloys. For help on a project, or simply more information, call **888-427-2411**. And visit us at ***http://architecture.copper.org***.

Project: Robertson Branch Library
City of Los Angeles
Architect: Steven Ehrlich Architects

COPPER
Unique. Beautiful. Enduring.

CIRCLE 11 ON INQUIRY CARD



It's not like the rest.

The new Clad Ultimate Double Hung.

No compromises. That was our objective. So we made over 100 design changes. Gave it clean, traditional lines and an all-wood interior. Eliminated unsightly, vinyl jamb liners. Developed an exclusive integrated sash tracking and locking system, for easier opening, closing and cleaning. And wrapped its exterior in extruded aluminum clad with a unique profile that closely matches the character and detail of wood. Presenting the new Clad Ultimate Double Hung. It's one of a kind.

Look closely. No vinyl jamb liner. An all-wood interior. Plus, it tilts easily for cleaning. You get a window that's beautiful inside and out.

MARVIN
Windows and Doors
Made for you.

For a free product brochure, call 1-800-236-9690.
In Canada, 1-800-263-6161 www.marvin.com 1200007A
CIRCLE 12 ON INQUIRY CARD

A Panel Discussion

When you're talking design flexibility, contemporary appearance and affordability, you're talking Alucobond® Material.

Created 30 years ago as the first-ever aluminum composite material or ACM, Alucobond Material has contributed to the design excellence of more than 50,000 buildings worldwide. Alucobond Material's success is due in part to network c distributors/fabricators–clearly the best in the indus These partners offer unequaled knowledge and expertise regarding all aspects of fabricating and installing aluminum composite material.

And that translates into unequaled benefits for you

So consider Alucobond Material for your next design challenge.

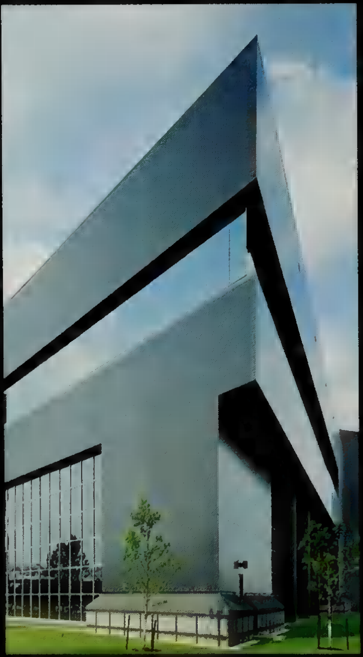
ALUCOBONI

You'll experience the confidence that comes only the best product and people in the industry.

alusuisse composites

Alusuisse Composites, Inc.
P.O. Box 507 • 208 W. 5th Street • Benton, KY 4202
800-382-6445 • 270-527-4200 • Fax 270-527-1552
www.alusuisse-comp.com

CIRCLE 13 ON INQUIRY CARD



Record News

Bulletin New Koolhaas Urban Park p.28
Hannover Expo 2000 p.30
Piano's Nasher Sculpture Garden Unveiled p.36
MacArthur Fellowship Awarded p.40

GREAT CAESAR'S GHOST . . . WHOSE VERSION OF HISTORY IS GLADIATOR?

With great flair, Hollywood rebuilds, reconceives, and envisions cities past, present and future.

Shakespeare in Love used traditional shop-built sets to revel in the realistic grime and chaos of olde London; each *Star Wars* episode further evolves computer graphic imaging (CGI) in matching unique extraterrestrials with specific galactic architectures; and *Ghostbusters* bridged the generation gap, taking advantage of emerging technologies to animate urban spooks while relying on old-fashioned aerial shots to cleverly shuffle Manhattan landmarks. This summer, with tens of millions of special effects dollars at his disposal, Ridley Scott conjures the Roman Empire in *Gladiator*, an action tale of the heroic general Maximus who is stripped of his name, rank, and family by the late Caesar's son and spurned heir, Commodus, and then sold into slavery where he seeks revenge as an arena gladiator.

Shooting in Malta, the filmmakers built a full-scale quarter-section replica of the great Colosseum's first tier for the primary sequences. Visual effects supervisor John Nelson and London's Mill Film Ltd. then "filled in" the remaining circumference, height, statuary, and audience of 40,000 via computer. The canvas sunshade—its engineering often debated by historians—is included, complete with CGI sailors manning the ropes used to retract this massive velarium. It is a spectacle, yet there is never a moment to pause and digest this visual awe. Scott's camera hurtles and spins through his wide shots, almost as if the puppet master fears his strings will be revealed should he slow to a less frantic pace.

Much of *Gladiator*'s stylized shell of a story (think *Braveheart* in tunics) plays out in the streets and structures of A.D. 180 Rome. But this is a far cry from the cypress-and villa-dotted Palatine and elegant white Forum familiar to natives, students and visitors. A gray gloom clouds out the city's mystical Mediterranean light. CGI aerial shots pan over a treeless, brooding Rome whose scale is an awkward marriage of the director's futuristic *Bladerunner* sets (after a Michael Graves classical makeover) with the high nationalist imperialism of Albert Speer.

Production designer Arthur Max manipulates the proportions of the base, column, and pediment orders and sporadically repeats them vertically throughout the city; skyscraper-like classical follies tower over a Rome that appears to sprawl well beyond the San Fernando Valley. Bolder yet is his invention of the Gate of Rome: an appropriation of Bernini's 17th Century colonnaded Piazza San Pietro. Commodus' epic procession through it dwarfs the next millennium's more modest military parades in Tianamen and Red Squares.

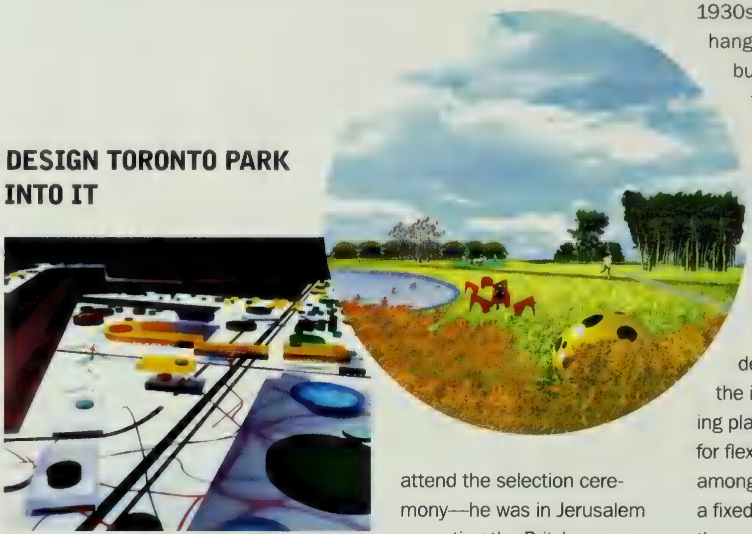
They say Rome wasn't built in a day. Were it, however, constructed by an army of Los Angeles developers charged with a Hollywood-sized budget, it might look like a smoggy day in the *Gladiator* version of Rome.

Nicholas S.G. Stern

The Colosseum (above) and other scenes in *Gladiator* are stylized versions of Rome A.D. 180. Although a visual delight, the scenes portray a sprawling, out of scale Rome.

WWW *For breaking news in the world of architecture, including Rem Koolhaas' Pritzker Prize acceptance speech, click on* **News** *at* ***www.architecturalrecord.com***

KOOLHAAS HEADS TEAM TO DESIGN TORONTO PARK WITH THE UNKNOWN BUILT INTO IT



An interdisciplinary design team headed by Rem Koolhaas and his Office for Metropolitan Architecture, Rotterdam, was recently selected to create a $77-million ($112 million Canadian) urban park on half of a sprawling 644-acre decommissioned military base in the center of greater Toronto.

The international design competition attracted 176 submissions from 22 countries. The Koolhaas team includes graphic designer Bruce Mau Design Inc. of Toronto, Amsterdam-based landscape architect Inside/Outside, and engineers Ove Arup & Partners International, New York/London. The winning team was awarded $178,500 ($260,000 Canadian).

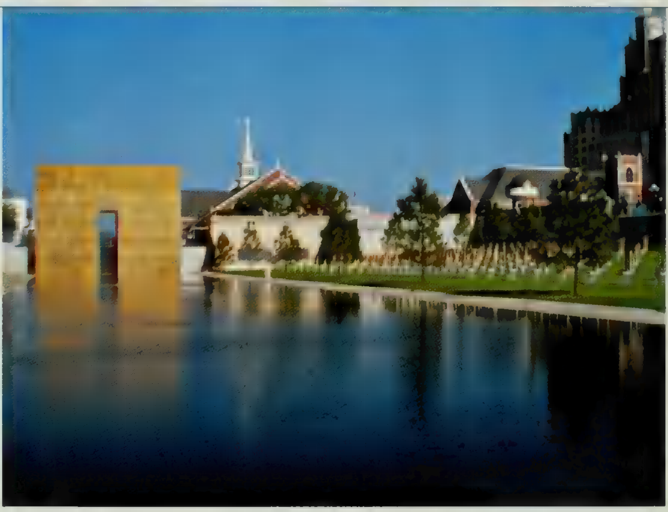
Parc Downsview Park Inc., a federal agency developing the former World War II-vintage base, quoted Koolhaas as saying: "The park's mass will be built up over time into a flexible patchwork of planted clusters separated by undesignated meadowlands." The Dutch architect wasn't able to attend the selection ceremony—he was in Jerusalem accepting the Pritzker Architecture Prize for 2000.

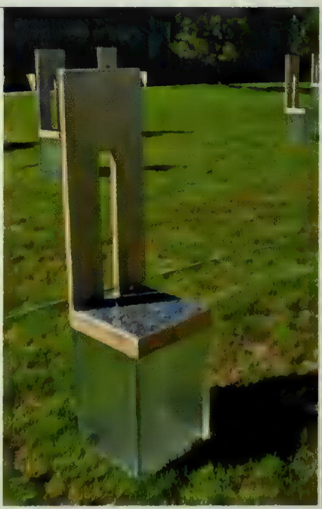
The agency describes the opportunity to reclaim a land block of that scale and importance in the middle of a city as "unprecedented worldwide." It is certainly one of the more interesting of Toronto's many fallow waterfront and brownfield sites, with its 1930s and '40s-era aircraft plants, hangars, a film studio complex, butterfly garden, wildlife center, active rail line, and former military buildings, most of which will remain on the site.

Detlef Mertins, a University of Toronto professor and the competition's advisor, notes: "The jury has selected a design that takes into account the incredible pace of change taking place around us and the need for flexibility. In this it was unique among the submissions. This is not a fixed plan, but rather one that has the unknown built into it."

He was referring to the evolution of the design over the next 15 years, with the creation of more than 1,000 walking and bicycling pathways, water features, playing fields, and gardens. Preparation of the urban park site, dubbed Tree City by the winners, is already under way. *Albert Warson*

OKLAHOMA CITY MEMORIAL RECOGNIZES INDIVIDUALS, MOMENT





The Oklahoma City National Memorial, dedicated April 19 on the fifth anniversary of the bombing, makes no grand pronouncements on terrorism or violence. Instead, it offers trees, water, and grass as a setting for 168 empty chairs, one for each victim. The effect is more churchlike than conventionally civic, especially at night when the bases of the chairs glow serenely.

The architects, Hans and Torrey Butzer and Sven Berg, were in their early thirties and working in Berlin when they entered the international competition for a memorial. They designed a space rather than an object, covering 3.3 acres between the surviving walls of the Murrah Federal Building and the shell of the Journal Record Building to the north. At opposite ends of Fifth Street, which bisects the site, stand bronze gates inscribed 9:01 and 9:03, the times between which the blast occurred. In the middle sits a shallow reflecting pool, 330 feet long, with terraces, an orchard, and a solitary "survivor tree" on one side and the field of empty chairs on the other.

The chairs are the memorial's centerpiece: tall ones for adults, shorter ones for children, each bearing a name. With bronze backs and cast glass bases, they are small monuments, arranged according to where individuals died. Seats are arranged in nine rows, representing each of the nine floors of the building, with a clustering at the epicenter of deadliest impact and a few more off to the sides. What seems at first like a random pattern is a deeply emotional geometry.

On the gates of time are the words, "May this memorial offer comfort, strength, peace, hope, and serenity." These words come from the mission statement and express the desire of families, rescue workers, and the entire community for healing and closure. By not overloading the memorial with fountains and commemorative sculpture, by allowing the voids to speak for themselves, the architects have contributed to that process. *David Dillon*

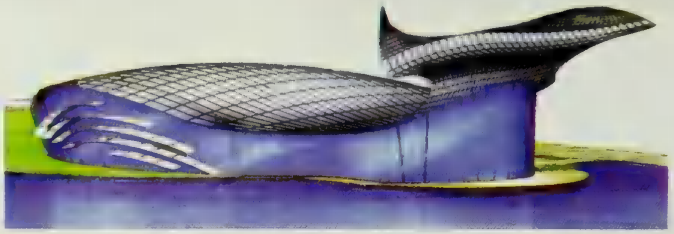
iDESIGN™

SUDDENLY YOUR THINKING BECOMES POSITIVELY LUMINOUS.

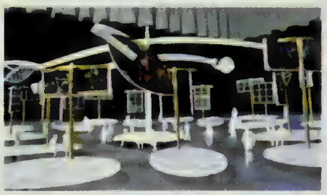
Never have your ideas blossomed so brilliantly. Never have the boundaries of architectural design been broken down so willingly. And never has there been a creative environment so open to innovation. Now Autodesk combines the potential of the Internet with exceptional new design technologies to help you realize your very own vision. See what iDesign can do for you: www.autodesk.com/bloom.

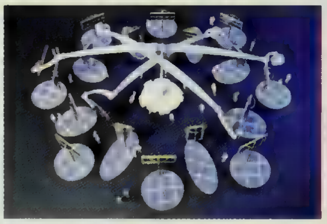
autodesk

© Copyright [redacted] Autodesk, Inc. Autodesk [redacted] a registered trademark [redacted] iDesign is a trademark of Autodesk Inc. in the U.S. and other countries



EXPO 2000 EMBRACES GLOBALIZATION, BUT WHO'S ATTENDING?





"Pavilion of Hope" (top) and "Tree of Knowledge" (middle and bottom) are located in the German Pavilion.

The first world exhibition ever held in Germany, Expo 2000, opened in Hannover June 1. Guided by the theme "Humankind—Nature—Technology," the Expo, costing a record $1.6 billion, is intended to improve Germany's image abroad, to encourage Germans to be more tolerant of foreigners, and to prepare Germans to face challenges posed by globalization.

Organizers have labeled the Expo, which largely occupies an existing venue, "a new type of World Exhibition." To house the mega-event, a trade fair grounds on Hannover's southern periphery was refurbished and expanded according to plans developed by Arnaboldi/Cavadini of Locarno, Switzerland, and Albert Speer, Jr., of Frankfurt-am-Main, Germany.

For the five-month-long Expo, 15 trade fair halls (each roughly 212,000 square feet) have been outfitted to accommodate exhibitions. Five halls comprising a theme park contain lavish electronic media displays created by designers, including Toyo Ito and Jean Nouvel, that explore how life will change during the 21st century.

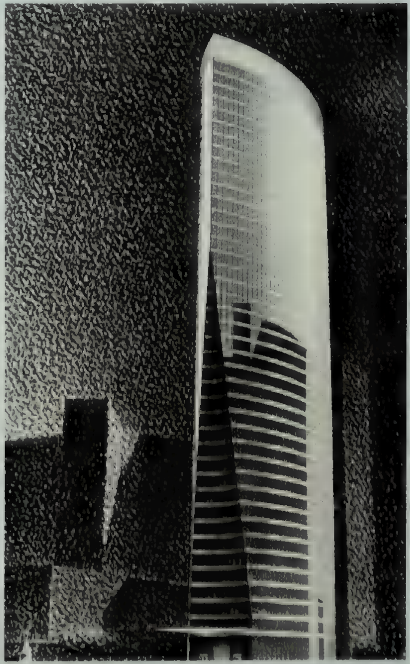
The Expo's major new architecture, including a 20,000-seat concert arena and 40 pavilions representing corporate sponsors and nations from Europe, North Africa, and the Near East, is located at a 148-acre, eastern extension to the existing fair grounds.

Hannover's biggest disappointment has been the absence of a U.S. Pavilion, which would have occupied a dominant, 130,000-square-foot parcel at the Expo's eastern extension. After poor American showings at recent World Exhibitions, Congress passed a law in 1994 prohibiting public support for future U.S. pavilions at such venues. Initially, the Expo's U.S. Commissioner, William D. Rollnick, hoped to build a pavilion by James Wines / S.I.T.E. of New York. When this project proved difficult to realize, a simpler pavilion, by the Berlin based, German-American architects Barkow/Leibinger was subsequently developed. Rollnick failed to raise the $45 million required for the second project with its accompanying exhibitions and cultural events.

According to Frank Barkow of Barkow/Leibinger, the project died a slow death for several reasons: "Companies such as Coca Cola and McDonalds saw themselves as global, not American, companies, and contributed millions of dollars to become official Expo sponsors instead." American organizers also lacked an overriding idea to orient the U.S. presentation. Although Germans failed to publicize the Expo sufficiently in the U.S., observes Barlow, the "choice of a provincial city for a world exhibition did not help."

As of early June, crowds had not flocked to the Expo, due in part to the high admission fee. Does Hannover's example suggest that world exhibitions are no longer viable? Despite the Expo's numerous attractions, the answer remains to be seen. *Mary Pepchinski*

AMERICANS ON THE EDGE OF PARIS **When Tour EDF, or PB6, opens in early 2001, the 40-story office tower (pictured right) will be adding another U.S. imprint to the Parisian skyline—not in the heart of the capital, but in La Défense, the high-rise business district on the Paris periphery.**



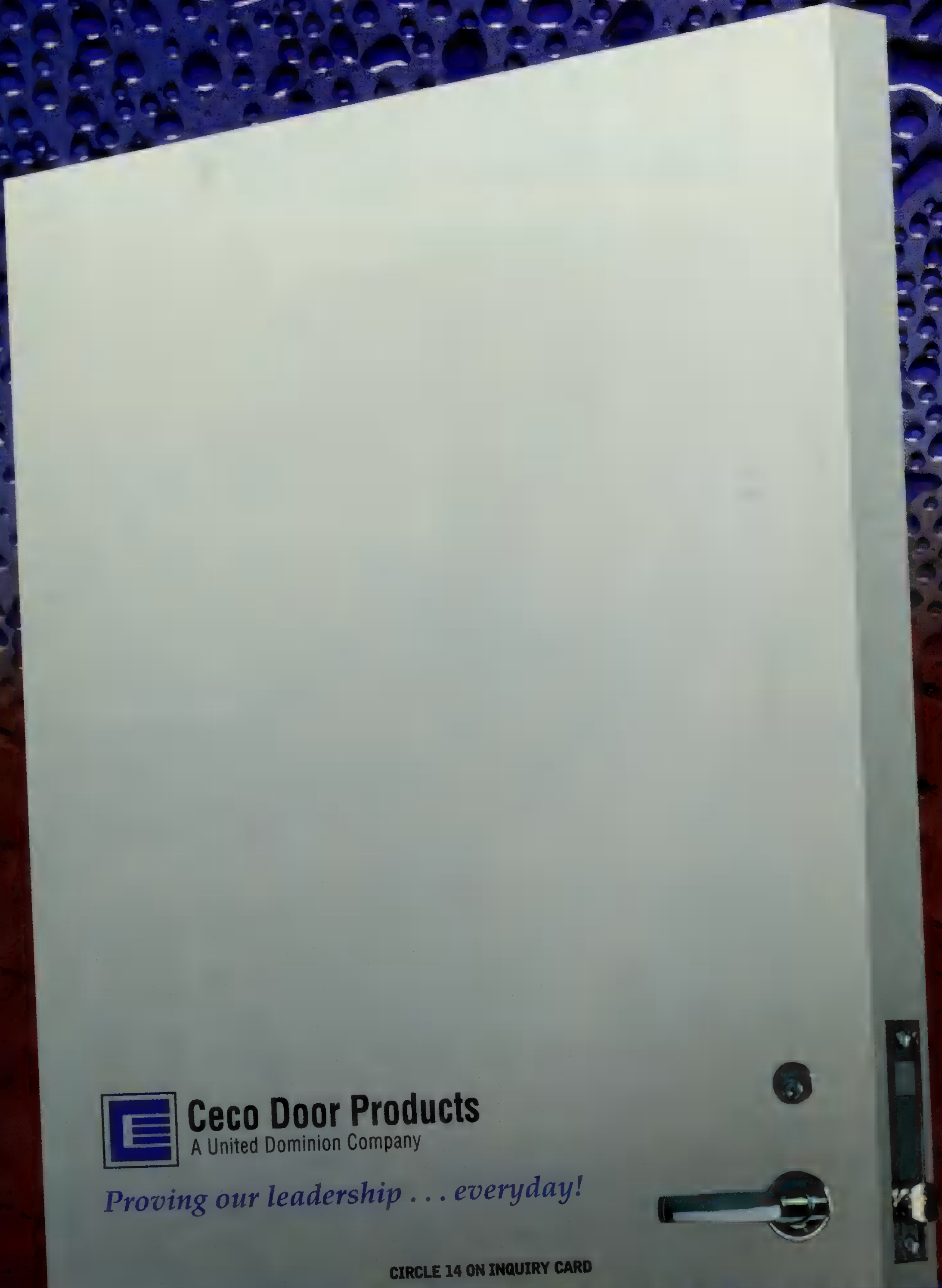
The estimated $93-million PB6 has already achieved half its height, rising upon an extensive, paved plinth that is true to Le Corbusier's functionalist principles: to separate towers from pedestrians from transport. In 1995, Pei Cobb Freed and Partners, in association with Roger Saubot and Jean Rouit of the French practice SRA Architectes, won the commission over six other finalists that included Foster and Partners and SOM.

EDF (the French electricity company) and the Caisse des Dépôts et Consignations (a state-run organization that invests in social, economic and cultural enterprises) will occupy the tower. Henry N. Cobb, FAIA, in his description of the building, says it has a "carved prow" that "creates a memorable gathering place where passersby will be invited to pause and enjoy the view from a sheltered vantage point beneath a generous canopy of metal and glass."

PB6 is just one of a clutch of La Défense projects generated by a lack of office space, coupled with a rise in property prices since the late 1990s.

Jean-Paul Viguier's twin towers Coeur Défense, (heart of (La) Défense) have a 40-meter-high atrium that connects three smaller, eight-story structures. The neighborhood's first church, Notre-Dame-de-la-Pentecôte by Franck Hammoutène, also will be completed this year.

Major long-term construction projects totaling about $571 million are also under way behind La Défense Arch. A 74-acre, mixed-use site is being developed with accommodation for students at the Léonardo de Vinci University, with residential blocks, hotels, offices, shops, and parks. The 34-story CBX tower by Kohn Pedersen Fox and Rouit will be complete in 2003. The low-rise Bâtiment Guynemer, also by Rouit, will be complete in 2001. [For information about other recent French projects, see page 53.] ***Robert Such***



THE KHEMPRO™ FRP FIBERGLASS
DOOR SYSTEM DEFEATS MOISTURE,
SALT AND CORROSION!

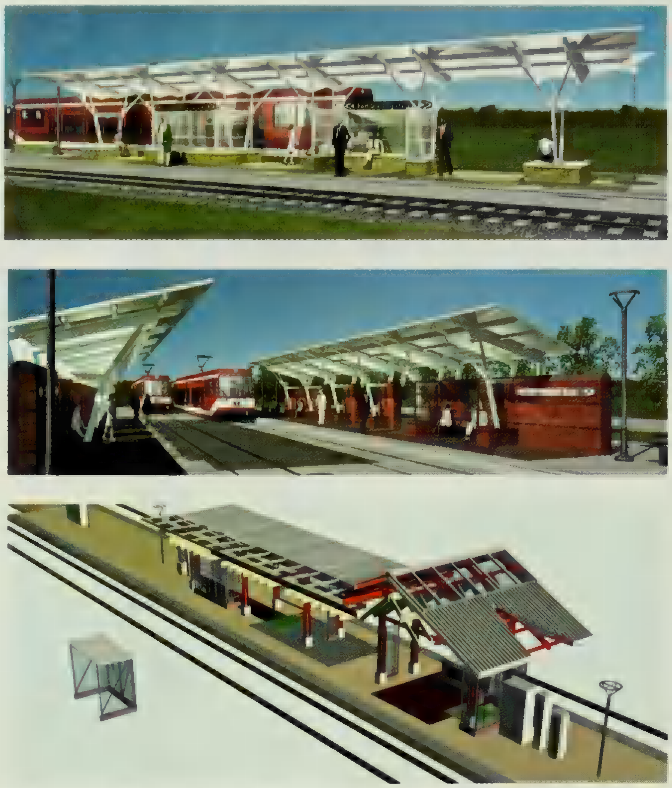
Ceco Door Products
A United Dominion Company

Proving our leadership . . . everyday!

CIRCLE 14 ON INQUIRY CARD

Old Hickory Boulevard • One Brentwood Commons, Suite 150 • Brentwood, TN 37027 • (615) 661-5030; FAX (615) 370-5299 • www.cecodoor.com

UNIQUE RAIL STATIONS TO DOT TWIN CITIES NEIGHBORHOODS



Stations for the Hiawatha LRT include designs by Cuningham Group Architects (top and middle) and Meyer Scherer & Rockcastle Architects (bottom).

Minneapolis and St. Paul evolved around the mighty Mississippi River. Despite this vital connection—and an interdependence reflected in their nickname, Twin Cities—the pair still lacks a comprehensive public transit system to unite them.

A new light rail transit system, whose construction starts this fall, should change that. Station designs were recently unveiled for the 11.4-mile, $548-million Hiawatha Line—linking Minneapolis-St. Paul International Airport and Mall of America with downtown Minneapolis—the first of many proposed routes.

The Hiawatha Line design process was unique, if not unprecedented, for light rail transit design. While ticket machines, light fixtures, and other elements are consistent among stops, each station has a unique character with canopies and windscreens appropriate to their neighborhood surroundings. For example, pitched roofs and dormers of the bungalow houses near one station in a residential neighborhood are echoed in the station design. At a station in downtown, colored light illuminates a translucent canopy, creating a dynamic image for those in the skyscrapers above and on the street below.

Five Minneapolis-based architecture firms designed 13 stations: Barbour La Douceur Architects, Cuningham Group, Elness Swenson Graham, Julie Snow Architects, and Meyer, Scherer & Rockcastle. Each firm worked separately with team artists on particular stations. The Minneapolis planning and urban design firm BRW coordinated the project, and designed areas between stations. Hammel, Green and Abrahamson, Inc. and Craig Lau will be responsible for two additional stations, controlled by the Metropolitan Airport Commission.

The design process was also unusual with intense community involvement. Originally, the contract called for three station types—downtown, neighborhood, and suburban. Community groups expressed a strong desire that stations better reflect the character of their neighborhoods. BRW proposed a consortium of multiple firms and artists, each charged with tackling this issue. The approach was vital to quelling community concerns and generating support.

Unlike a typical approach to transit-stop design, with uniform stations distinguished solely by signage, the Hiawatha Line is distinct. Residents' long wait for mass transit—the Twin Cities remain one of the last major metropolitan areas without such a system—is rewarded with stations of distinctive design. *Todd Willmert*

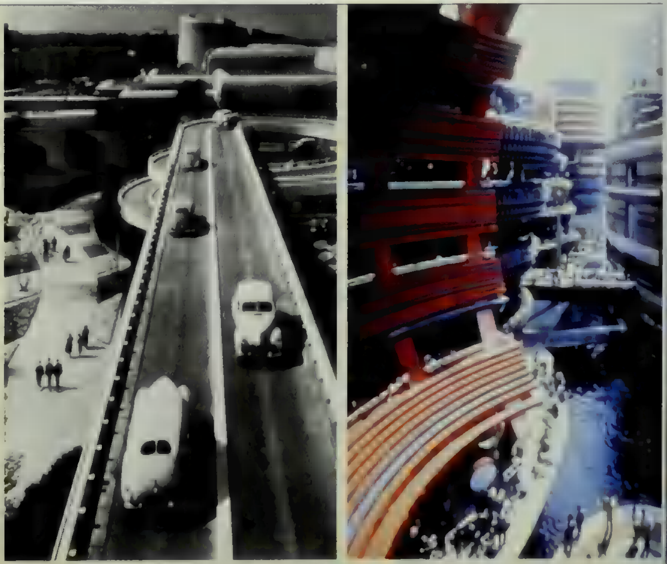
100 YEARS OF ARCHITECTURE EXHIBIT REACHES FINALE IN L.A.

Five years ago, when Richard Koshalek and Elizabeth Smith began curating the exhibition, "At the End of the Century—100 Years of Architecture," they agonized over the task. "We could have gone for a pure chronological ordering, simply chosen the popular masterworks or merely concentrated on innovation," recalls Smith, the Chief Curator at the Museum of Contemporary Art in Chicago. "But architecture over the last hundred years has had a decidedly more complex history."

Ultimately, the curators devised a series of 21 smaller exhibitions, each with a different theme. Subjects range from "The Skyscraper" to "World of Tomorrow: The Future of Transportation" and "The Rational Kitchen."

The exhibition, with more than 1,000 pieces including original models, rare architectural plans, stellar photographs and furniture is at the Museum of Contemporary Art in Los Angeles through September 24. The show originated in Chicago, then went to Japan and Koln, Germany. The Los Angeles showing is the exhibit's last.

A few of the exhibit's more contemporary projects include Frank Gehry's Guggenheim Museum Bilboa, Morphosis' MTA Pedestrian Bridge in Los Angeles, Zaha Hadid's Vitra Fire Station, and Daniel Libeskind's Jewish Museum in Berlin. ***David Hay***



Images of the 1939 World's Fair in New York (left) and Canal City Hakata (right), Fukuoka, Japan, by Jerde Partnership are in the exhibit.

Shout it from the rooftops. V-day has arrived. Victory over every major construction project. For every design/build firm. Every owner/operator. Viecon-powered networks are revolutionizing creation, collaboration and commerce. Driving out massive inefficiencies in the Engineering, Construction and Operations of your long-term assets. The dot.coms are powerless. With Viecon, victory is yours.

viecon.com
by Bentley

CIRCLE 15 ON INQUIRY CARD

NATION'S CAPITAL LAUNCHES INVIGORATING INNER CITY PROGRAM

This spring District of Columbia officials announced plans to revitalize two city neighborhoods flanking both sides of the National Mall in Washington. Both efforts are intended to shore up areas outside the traditional, better-known tourist attractions of the city, and would boost the tax base, and provide housing, an important aspect of D.C. Mayor Anthony William's success strategy for the nation's capital.

Targeted areas for development include the neighborhood directly north of the mall, in the old downtown core, and the area southeast of the Capitol, along the Anacostia River waterfront. The hope is to provide a more stable infrastructure in both areas that will benefit the entire downtown and make use of the long-neglected river resource.

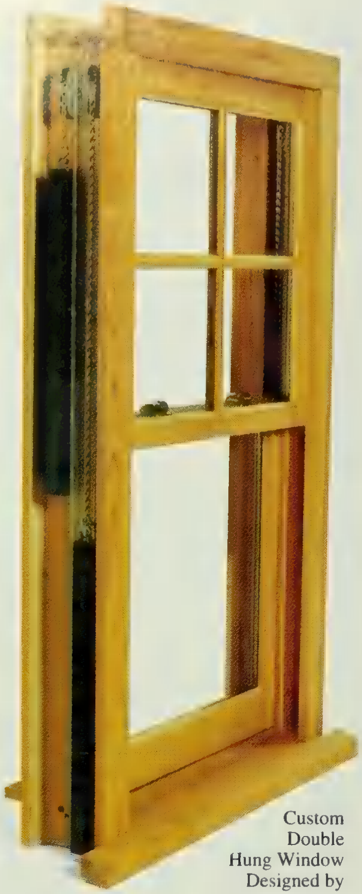
The downtown has struggled to maintain its vitality since the 1960s, when federal building projects and rising crime drained the availability and desirability of housing. Planners hope their efforts, along with the generally favorable economy, will bolster the revitalization already started by projects such as the three-year-old MCI arena. That venue, which provides homes for major league hockey and basketball teams, as well as college teams, restaurants, and sports-related retail outlets, has pumped new vigor into city nightlife. On the cultural front, the ongoing renovation of the National Museum of American Art and the National Portrait Gallery has brought tourists and locals venturing into what was previously a quiet quarter of the city.

In April Mayor Williams announced a development plan that included 3,000 units of housing as well as shops, theaters, and museums. The targeted area is bounded on the south by the Mall and Massachusetts Avenue to the north, and extends westward to the White House and to the Capitol building on the east. A National Music Museum, sponsored in part by the Smithsonian Institution and spurred by a large Frank Sinatra collection donated by the singer's widow, is part of the proposal. Housing is a focal point, however, according to Eric Price, deputy mayor for economic development in the District of Columbia. "We believe the success of the new downtown will not be assured until we create a 'living downtown' that is active 18 hours of the day."

Meanwhile, down on the southeastern end of the Mall, city officials and business leaders teamed up with the Federal Government Services Administration, the Congress for the New Urbanism and a group of architects to generate proposals for reintegrating that area with the rest of the city. Locked in a weekend-long charette-style design session, the group examined ways to pump up the overlooked Anacostia River waterfront. Their goals were to provide a significant civic space along the waterfront, create pedestrian access to the river, create mixed-use development in the area, particularly housing, and encourage new technology-based industries to locate there.

The area, which includes the Navy Yard and an undeveloped parcel known as the Southeast Federal Center, includes many acres of federally owned flood plains. Its unsuitability for large-scale development makes it an asset for those looking for outdoor civic space. "The vision identifies a way to parcel off what's least valuable about the land on the site and use it to enhance the value of everything else," said Tony Costa, head of public buildings for the GSA in the National Capital Region.

Mayor Williams, noting the success of cities such as Providence, Cleveland, and Oakland in developing their own waterfronts, stated that Washington should be able to match those efforts. Remarking on the alliance that convened to initiate the project, he proclaimed, "The vision marks a true coming together of our community, and unprecedented partnerships among residents, local stakeholders, the city, the Housing Authority, and the Federal government to reclaim our nation's waterfront and revitalize this under-utilized part of our city." *Ellen D. Sands*



Custom
Double
Hung Window
Designed by
Kurt Dubbe A.I.A.
Custom Manufactured
by... **BERGERSON**

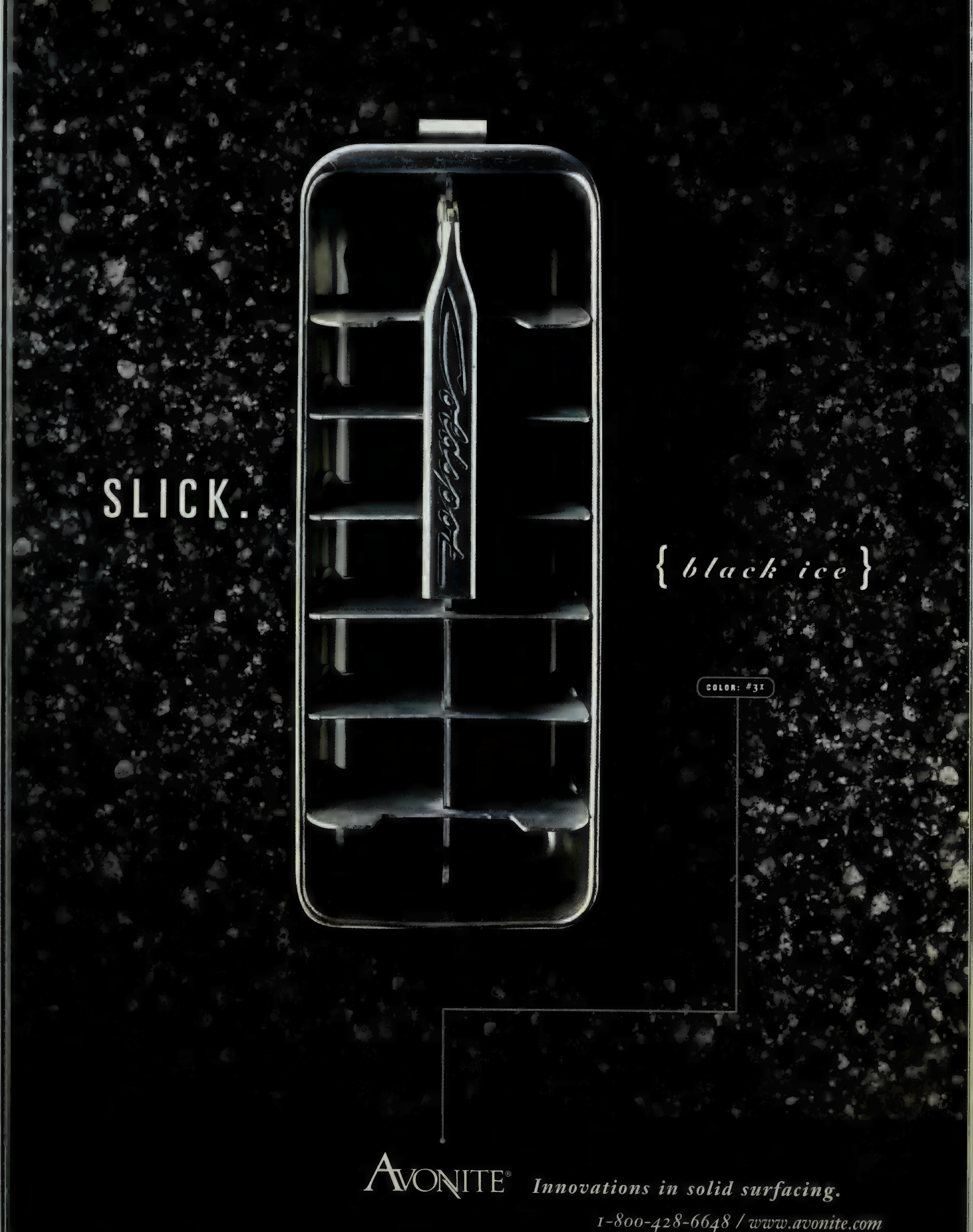
It isn't that we mill our Export Grade Clear Western Red Cedar to a four thousandth of an inch tolerance that defines our uniqueness. It's that every window and door is custom manufactured to your specifications.

When ordinary run of the mill just won't do, and cost is a consideration but not an issue . . .

CEDAR WINDOWS & DOORS
By **BERGERSON**

P.O. Box 184, Hammond, OR 97121
Tel. 503/861-3534 • Fax 503/861-0316
E-mail bcw@pacifier.com
Visit our web page www. bergersonwindow.com
Call 1-800-240-4365
For FREE BROUCHUE and more information...We're ready when you are.

CIRCLE 16 ON INQUIRY CARD



AVONITE® *Innovations in solid surfacing.*

1-800-428-6648 / www.avonite.com

CIRCLE 17 ON INQUIRY CARD

Pre-Engineered Restrooms

Concession & Shower Buildings by ROMTEC

Romtec's ready-to-install buildings deliver right to your project site. Perfect for parks, malls, golf courses, boat ramps, sports complexes and recreation areas.

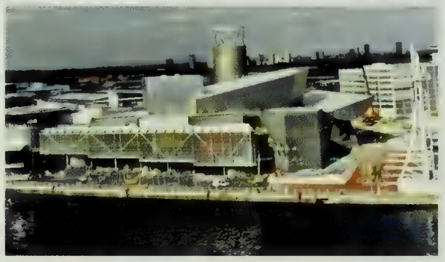
- Hundreds of floor plans & styles
- AutoCAD® drawings & specs by email
- Same-day quotes & install estimates
- Prompt, professional service

Call for FREE Video & Catalogs
541-496-3541

ROMTEC
Restroom Design & Engineering Specialists
www.romtec-inc.com
Email: romtec@rosenet.net
© 2000, Romtec, Inc.

CIRCLE 18 ON INQUIRY CARD

THE LOWRY ARTS CENTER REJUVENATES MANCHESTER DOCKS



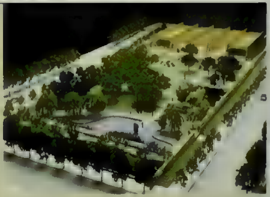
In the rundown Salford Docks area outside of Manchester, England, the London-based architects Michael Wilford and Partners have designed the Lowry Arts Centre. The $155 million theatre and gallery complex was largely funded by the National Lottery.

Like a significant number of recent projects of its kind—London's Tate Modern, for example—the Lowry is not only about creating a new cultural facility but the regeneration of a waterfront area. The Bilbao effect of creating distinctive buildings that majestically rise from indiscriminate townscapes has clearly been sought at Salford.

The Arts Centre is named after a locally celebrated 20th century Salford painter LS Lowry. In addition to galleries dedicated to his works, the Lowry also houses temporary exhibition spaces and two theatres. The larger theatre seats 1,730 and has the biggest stage in England, excluding London. As a facility, the Centre thus has real potential to attract high-quality exhibitions and performances.

The building stands on 803 concrete piles sunk into the bedrock at the end of Pier 8. In plan, it fits in with the shape of the pier. In section, its complex roof-scape with a 160-foot-high tower provides the Lowry with a skyline effect befitting a landmark.

The various elements of the building are composed as distinct entities that can be read externally. The most prominent features are the exaggerated double-height entrance canopy, the tower, and the rotunda at the back. Viewed from across the canal, the three can be interpreted as the prow, the mast, and the stern of a ship. Such a nautical analogy is appropriate for a building in the docks. In fact, there may be a regatta on its way to Salford Quays, with the completion of Daniel Liebeskind's Imperial War Museum on the other side of the canal.
Laura Iloniemi



SCULPTURE GARDEN BY PIANO, WALKER TO ENLIVEN DALLAS ARTS DISTRICT **After four years of planning, the final design for the $32 million Nasher Sculpture Garden was unveiled June 5 in Dallas. Designed by Renzo Piano and landscape architect Peter Walker, the 2.4-acre garden will enclose the finest private collection of modern sculpture in the world.**

Assembled over 30 years by Dallas developer Raymond Nasher and wife Patsy, the collection contains over 150 works by Brancusi, Calder, Moore, Picasso and other modern masters. The garden will be the new centerpiece of Dallas' downtown Arts District, between the Museum of Art by Edward Larrabee Barnes and I.M. Pei's Morton H. Meyerson Symphony Center.

Visitors will enter the Nasher Garden through a series of five slender pavilions with travertine walls and intricately faceted glass roofs. The three center pavilions will serve as galleries for small or fragile works, while those at the ends will house a cafe, bookstore, and offices for the Nasher Institute of Modern Sculpture.

From the pavilions, visitors will walk onto a flat, grassy terrace populated by large, ingratiating sculptures. A gently sloping lawn past groves of native trees will lead to a reflecting pool and a grassy berm that will screen noise from a nearby freeway. The garden contains at least 60 locations for sculpture, ranging from shady groves to knolls and open lawns. Garden installations will change seasonally.

City officials are counting on the Nasher Garden to be an international cultural attraction comparable to the Kimbell Art Museum in Fort Worth, and to energize its presently moribund Arts District. "If there is any chance of creating a real urban space in Dallas, this is it," said Piano. "We have stolen a piece of land from downtown and created a place of discovery. People will be drawn to it. You will see them walking."

Groundbreaking is scheduled for August, with an opening in spring 2002. ***David Dillon***

T. GREENSBORO PUBLIC LIBRARY, GREENSBORO, NORTH CAROLINA
ECT: J. HYATT HAMMOND ASSOCIATES, INC
L CONTRACTOR: JOHN S. CLARK COMPANY, INC
OMMERCIAL REPRESENTATIVE: MARCIA PREZIOSO

PELLA. SOLUTIONS FOR BUILDINGS WITH ONE STORY — OR 100,000.

The Greensboro Public Library speaks volumes about Pella's commercial capabilities.

THE DESIGN CHALLENGE.

The publicly funded project demanded a cost-efficient window solution that remained true to the architect's vision: a warm, inviting atmosphere for visitors.

PELLA'S COMMERCIAL REPS RECOMMENDED CLEAR LOW-E GLASS TO MAXIMIZE NATURAL LIGHT AND MINIMIZE SOLAR HEAT GAIN.

THE PELLA COMMERCIAL SOLUTION.

Pella's solution — clad fixed frames made to fit the specified openings — met the project's budget objectives and provided the best of both worlds: low-maintenance aluminum exteriors and the warmth and design flexibility of wood interiors.

Pella's commercial reps worked alongside the design team — quoting turnkey budget numbers, writing specifications and creating detailed installation drawings of the project's windows in both ribbon and punched openings.

The result is worth checking out. Pella® windows helped make the library a source of pride for the community.

To discuss your next project — or for more information on commercial solutions — call 1-800-84-PELLA.

Pella COMMERCIAL DIVISION

VIEWED TO BE THE BEST.®

CIRCLE 19 ON INQUIRY CARD

MMERCIAL SOLUTIONS: EDUCATION • HEALTH CARE • HISTORIC RENOVATION • HOSPITALITY • OFFICE • RETAIL
WWW.PELLA.COM

A223Z0AQ ©2000 Pella Corporation

LEFEVRE STUDIO

architectural portraits
illustrated bronze maps
terrazzo embedments
pavement inserts
sculptural installations

27 Bleecker St NY NY 10012
Telephone 212 677 1445
LeFevreStudio@rcn.com
CIRCLE 20 ON INQUIRY CARD

HILLSIDE CAMPUS EMERGES LIKE TUSCAN VILLAGE

The same Travertine stone used to build the Coliseum in Rome serves as the prominent material at Soka University, a private liberal arts college in Aliso Viejo, Calif. Attention to craftsmanship is evident everywhere on the construction site, where buildings are being created with hand-troweled plaster, cherry wood detailing, and terra-cotta roofs. With a price tag of $220 million for phase one, Soka is currently the eighth largest construction project in California and the only private campus built from the ground up in the United States in the last 25 years.

Set to open to students in the fall of 2001, the campus is perched atop a hill overlooking a 4,000-acre wilderness park. "The architectural metaphor for Soka is a European hillside village," says Norman Pfeiffer, FAIA, founding partner of Hardy Holzman Pfeiffer Associates, LLP, planner and architect of record for a majority of Soka's new campus. Summit Architects, Inc., in Santa Monica, Calif., is project manager and architect of record of several campus buildings.

Phase one includes 18 Tuscan-style buildings layered up the hillside on a series of bending axes. The signature piece of the campus is the Student and Community Services Building, which includes an 8,000-square-foot art gallery and a copper-clad dome that rises 100 feet above ground. The 124,000 square-foot library is the largest building on campus. Plans for future phases include a 2,000-seat performing arts center and additional academic buildings.

"Attention to energy conservation has been paramount," says Steve Davis, AIA, of Summit Architects. The student services building features natural ventilation controlled by weather instruments in the dome and special precautions were taken to protect the campus from fire, which can wreak havoc in this southern California locale.

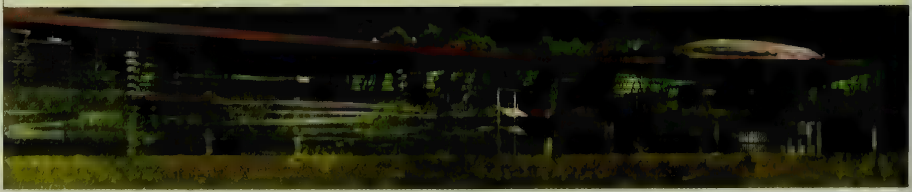
The Japanese word "soka" means "to create value." The college's mission is to encourage students to create value in their lives and in the world. The founder of Soka is Daisaku Ikeda, a noted educator who is president of a lay Buddhist organization. The college is non-sectarian and open to students of all nationalities and beliefs.

Susan R. Bleznick

NOUVEL AWARDED LE MAC **Paris, a city already spoiled with excellent museums, is about to build another. The $82 million project for a Museum of Arts and Civilizations (Musée des Arts et des Civilisations), baptized "le MAC," was awarded to French architect Jean Nouvel in December. Other architects in the competition included Peter Eisenman, Renzo Piano Building Workshop, Patrick Berger, Jakob & MacFarland, Foster and Partners, Tadao Ando/Jean-Michel Wilmotte, and Christian de Portzamparc. Nouvel's second building along the Seine River will occupy a site at the scenic Quai Branly, a stretch of riverfront east of the Eiffel Tower. The first, the Institut du Monde Arabe, opened in 1987.**

The new museum is dedicated to primitive art from Asia, Australia, the Americas and Africa. The architecture is meant to dissolve into the landscape while also creating an asylum for rare objects. The exposition floors are raised off the ground on large columns, which, according to Nouvel, are like tree trunks in the midst of a "sacred forest."

The forest is part of a garden landscape covering almost the entire 214,000-square-foot site. Designed by Gilles Clément, it is a zone of tranquility. A 56-foot high glass wall along the Seine provides a second barrier from the hubbub of the city. A mystical glow will be emitted at night as thousands of tiny lights set within the ground plantings change color with the weather. ***Claire Downey***



WHY WAYNE COUNTY'S DETROIT METRO AIRPORT RELIES ON SLOAN FLUSHOMETERS

Over 3000 flushes in an eight-hour period means up to 270,000 flushes in a month! That's why Wayne County's, mile-long Detroit Metro Airport relied on Sloan Valve Company's Optima Plus® ADA compliant Flushometers, for a major retrofit. According to Pat Territo, Plumbing Foreman and a Sloan Valve customer for 40 years, "The battery-powered Optima Plus was a clear winner for the more than 3 million customers we serve per month."

"One portion of the airport may have passengers deplaning and heading for the restrooms, while another has no activity for hours. We needed a reliable flush valve for this project. Over 700 Sloan Optima Plus Flushometers were chosen."

"Sloan's Dual Filtered By-Pass® was an important consideration because it handles chemically harsh and dirty water conditions. This helps reduce our maintenance and downtime costs. In addition, Sloan Optima Plus features a low battery flashing LED to allow ample time to replace the batteries," Territo said.

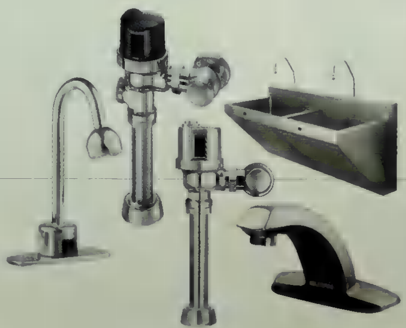
The Optima Plus battery powered electronics make retrofit conversion and maintenance easy. The metal cover model which was chosen for the project is built for high use and abuse in high-traffic public restrooms. Additional features that Optima Plus offers include:

- *Bak-Chek® Control Stop to help protect against pressure losses under high volume use.*
- *V-600-A Vacuum Breakers to handle high back pressures in low water consumption plumbing.*

Detroit Metro has over 100 public and employee restrooms with Sloan Optima Plus Flushometers.

IF DETROIT METRO AIRPORT RELIES ON SLOAN, SHOULDN'T YOU?...Call today!

Learn why Detroit Metro uses Sloan's Flushometers and why more airports rely on the performance of Sloan. Call **800-745-0800**, or circle the number below for a copy of our full-line catalog/CD-ROM.



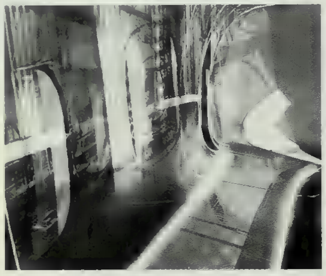
SLOAN®

Sloan Valve Company
10500 Seymour Avenue • Franklin Park, IL 60131
Phone: 800-745-0800 • Fax: 800-447-8329
www.sloanvalve.com

CIRCLE 21 ON INQUIRY CARD

Venice Biennale opens

Focusing on how a sense of disorder affects society, The Seventh Venice Architecture Biennale, an international architecture exhibition, takes place at the Giardini di Castello and Venice Arsenale through October 29. With a theme "Cittá: Less Aesthetics, More Ethics," events are planned to broaden dialogue between architects and those in related disciplines. The conference will explore how a sense of disorder impacts architecture, the visual arts, cinema, theater, music, and dance. Those unable to get to Venice can visit at www.labiennale.org.



Computer rendering of U.S. Pavilion

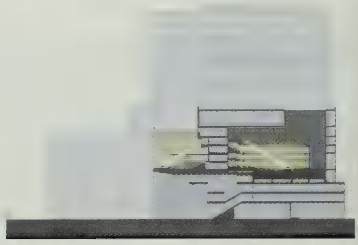
The U.S. Pavilion will feature two working studios led by Greg Lynn and Hani Rashid, instructors at UCLA and Columbia University, respectively, with architecture students from both schools. Students will investigate the application of technology as a defining factor in design, altering perceptions of time and space.

Mockbee wins MacArthur Fellowship Samuel Mockbee, FAIA, co-founder of Auburn University's Rural Studio, is one of 25 persons to receive a 2000 MacArthur Foundation Fellowship, known as the "genius award." In the Rural Studio, architecture students build homes and other structures in one of Alabama's poorest counties using recycled materials. Mockbee will receive $500,000, which can be used at his discretion. The John D. and Catherine T. MacArthur Foundation awards fellowships annually to persons in a variety of fields, and there is no application process. "MacArthur Fellows are chosen for their exceptional creativity, record of significant accomplishment, and potential for still-greater achievement," says Daniel J. Socolow, director of the Fellows program.

World's first performing arts facility built for jazz

Jazz at Lincoln Center, the largest and most comprehensive not-for-profit jazz organization in the world, unveiled plans for its new home, perched above Columbus Circle in New York City. The $103 million, 100,000-square-foot facility for education, performance and broadcast, named Frederick P. Rose Hall, is designed by Rafael Viñoly Architects and will be completed in fall 2003. The jazz hall is the entertainment centerpiece of Columbus Centre, a twin-tower complex by SOM that will include headquarters for Time Warner and studios for CNN.

Jazz at Lincoln Center includes a 1,200-seat concert theater for jazz, but it will be flexible to allow for opera, dance, or orchestra. A 600-seat performance atrium, with soaring walls of glass overlooking Central Park, features a dance floor, tiered tables, and a bandstand.



Section of Jazz at Lincoln Center

"The whole space is going to be dedicated to the feeling of swing, which is a feeling of extreme coordination," says Wynton Marsalis, artistic director of Jazz at Lincoln Center. "Everything will be acoustically sound and everything will be wired, so we can send out the material all over the world. It's all resonant, and it's all swinging."

Another DRAINAGE SOLUTION by Mortar Net™

Mortar Net™ Block's **patented** shaped mortar dropping collection device prevents water damage in single wythe concrete masonry unit (CMU) walls by breaking up mortar, thereby allowing proper drainage to the weep holes. To ensure optimum performance of concrete masonry walls, specify Mortar Net™ Block.

800-664-6638 www.mortarnet.com

Mortar Net™
The Difference Is In *The Cut.*

CIRCLE 22 ON INQUIRY CARD

Looking for a skylight manufacturer who is also a valued business partner? Look to TRACO Skytech Systems,® Inc. and our SkyTeam Partnership Program.

From design development, through bidding and manufacturing to construction of skylight projects, the Skytech SkyTeam will be there from the ground up. Design support includes specification consultation, three dimensional skylight visualization and modeling, as well as seminars, hands-on workshops and full-time management personnel dedicated to your business – your needs.

Add the beauty and function of our product and a single-source partnership with the largest distribution network in America, and you'll see why things are looking up. TRACO Skytech Systems,® and the SkyTeam Partnership Program.

Now that's what we call a plan.
CIRCLE 23 ON INQUIRY CARD
1-877-270-9484 • www.skytechsys.com

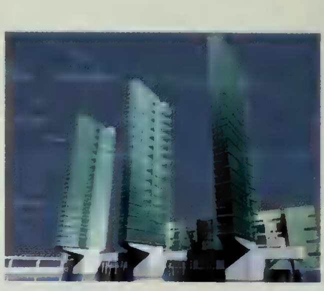
TRACO™
Skytech Systems®, Inc.

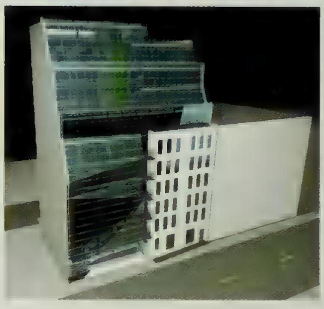
Muller's transformer plant

Vitra museum branches out The Vitra Design Museum opened its Berlin branch this month with a retrospective of the designer Verner Paton. The museum occupies an industrial transformer plant constructed by Hans Heinrich Muller in 1925. The large converted transformer halls have become exhibition spaces for design and architecture from around the world. This is Vitra's second location in Europe following Frank O. Gehry's Weil am Rhein building, an expansion. The museum's expansions will eventually include sites in Italy, France, Spain, and the United States. Vitra's important collection on the history of industrial furniture design will serve as a centerpiece, supplemented by the museum exhibition program, publications, workshops, and products. Retrospectives on Luis Barragan, Isamu Noguchi, Charles and Ray Eames, Ludwig Mies van der Rohe, and Frank Lloyd Wright will follow the Paton exhibition in Berlin.

CANstruct a World without hunger Students from Jefferson High School in Tampa Bay, Florida, led by architects Gould Evans Associates, won the Fourth Annual National *CAN*STRUCTION Competition with their entry, "Wurlitzer Jukebox." As a result of this year's competitions, 775,000 pounds of food were donated and distributed nationwide to help feed people in need. The national winners were announced this spring in Philadelphia at the SDA's and AIA's national conventions.

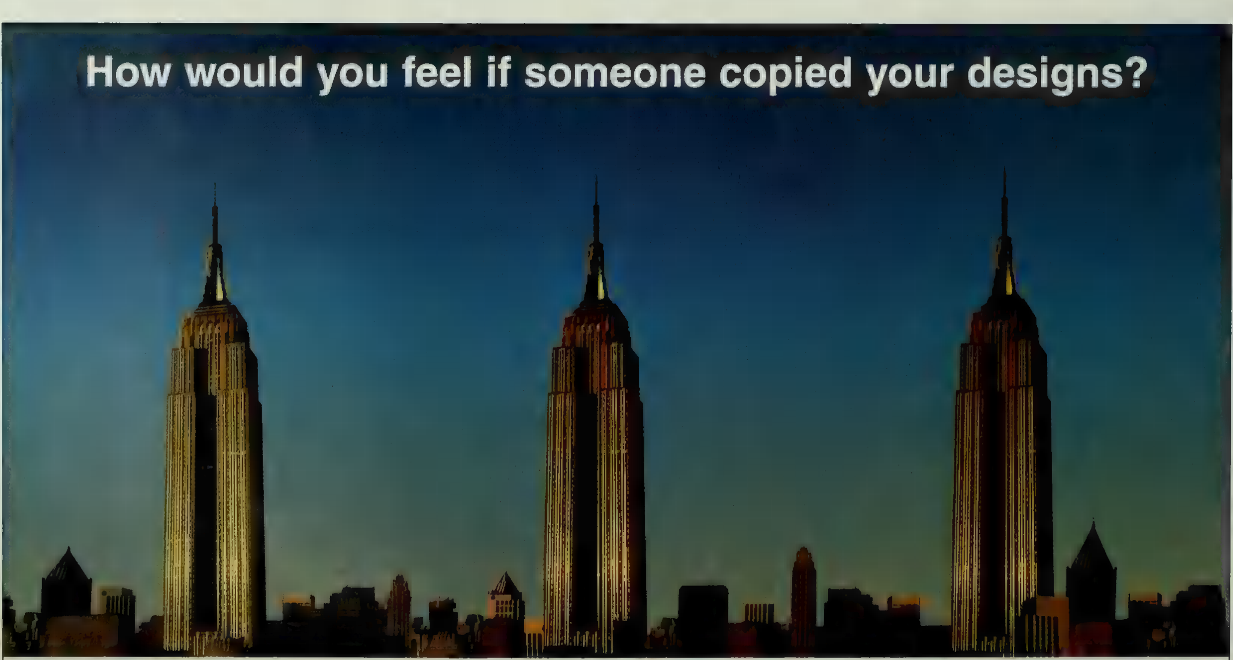
Million Can March





Residences by Archi-Tectonics On a pier jutting out in Rotterdam's River Maas is a remarkable 1930s grain silo that Archi-Tectonics of New York proposes to restore and convert to live-work units. Their design will add three 30-story residential towers (top right), a sports facility, and a park to revitalize this section of Rotterdam. Living units will be constructed with a modular steel panel wall system positioned on the silo's concrete base. The three towers will be cantilevered from the pier's edge, allowing for greater sunlight exposure and spectacular views. The developer is awaiting rezoning approval for construction to begin.

Also by Archi-Tectonics, a six-story abandoned warehouse on Greenwich Street (above) in lower Manhattan will be gutted, renovated, and topped with a three-story penthouse. The open loft plan of the



You work so hard to be original, you'd be outraged if someone stole or copied your drawings. It's true of Autodesk software, too. We work hard to develop the best design tools for you. And using an illegal copy is theft. But you can do something about it. Call 1-800-NO COPIES* or visit **www.autodesk.com/piracy** to report pirated Autodesk software. You'll feel a lot better.

autodesk

2000 Autodesk, Inc. Autodesk and the Autodesk logo are registered trademarks of Autodesk, Inc. in the U.S. and other countries.
The Empire State Building design is a trademark of Empire State Building Company. All rights reserved. *All communications are completely confidential.

Structural™

KIM LIGHTING

16555 East Gale Avenue
City of Industry, CA 91745
626/968-5666

CIRCLE 97 ON INQUIRY CARD

www.kimlighting.com

building will feature set-back intervals allowing for terraces with views of the Hudson River. The ground floor will host retail and art gallery spaces. For an adjacent lot, the architects have designed a new 11-story residential building, composed of steel and glass, to be integrated with the former warehouse. ArchiTectonics' Winka Dubbeldam is principal architect on both projects.

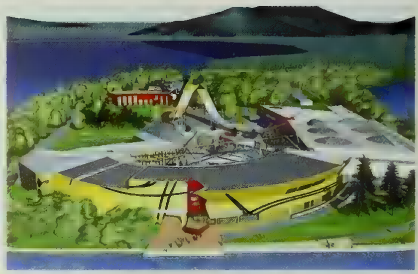
NCARB opposes interior designer licensing At their annual meeting in Chicago, June 14-16, the National Council of Architectural Registration Boards' (NCARB) delegates voted to oppose the enactment of interior designer licensing laws. In a statement on the vote, NCARB says proposals for interior designers to stamp, seal, and submit drawings would "seriously impact public safety. [To enact licensing laws] there must be a demonstrable need to protect the public from unqualified practitioners."

Only your architect knows for sure Movie studio designers Bastien & Associates of Irvine, Calif., have turned their office into a showpiece. They purchased a set they had designed for the 1999 movie *The Haunting* that mimicked a 500-year-old European castle, complete with high gothic ceilings, huge columns, and large wooden doors. The set became the backdrop for their office. "I'm attracted to high ceilings, and Gothic detail is timeless," says Gary Bastien. "We've gotten a number of commissions as a result of the creative sense [clients] get from our office." He says DreamWorks, the film studio that sold Bastien *The Haunting* set, is considering selling other used film sets to boost income.

Bastien office in Irvine

War memorial Columbia University has chosen a design by Architecture Research Office (ARO) as the winning scheme in a competition to design a war memorial honoring undergraduate students who served in combat. The memorial, centered on a mature tree, has a hedge cut away at five points. Discrete spaces for remembrance, the points each commemorate a war. ARO won the competition against Cliff Garten of SWA Group, Louise Bourgeois, and Diller + Scofidio.

Controversy down under Construction of the Australian National Museum is under way in Canberra, but not without controversy. The $91.2 million project, scheduled to open in March 2001, was designed by Ashton Raggatt McDougall in association with Robert Peck von Hartel Trethowan. The footprint of the Gallery of Aboriginal Australians, one of the museum's multiple buildings, bears a striking resemblance to the plan of the Jewish Museum in Berlin by Daniel Libeskind. Some Australian architects are dismayed by the similarity, citing copyright, ethical, and moral issues. Others find the reference appropriate, if it is meant to link the tragic history of Aborigines and Jews. Libeskind told the Australian magazine *The Bulletin*, "It seems there is a very shocking similarity and we'll investigate further."


Australian National Museum

FIREPROOFING WORTH THE LOOK!

A/D FIREFILM® II

Decorative Thin-Film Fire Resistive Coating for Structural Steel

A/D FIREFILM® II combines ratings up to 3 hours with the appearance of exposed steel.

A/D FIRE PROTECTION SYSTEMS

Call 1-800-263-4087

Photo: Sacramento International Airport, Terminal A
Architect: Dreyfuss & Blackford Architects
Photo: Cathy Kelly Architectural Photography
A/D FIREFILM® II on structural steel.

CIRCLE 42 ON INQUIRY CARD

The right door can make any place more inviting.

Now, think what our custom doors could do for your home. A door with no boundaries, save those of your imagination. A door handcrafted in the Old World style from the most beautiful hard woods available: Genuine Mahogany, Cherry, Maple, Walnut and Northern Red Oak. International Wood Products can deliver this door. All the way from your mind straight to your dream home. 1-800-877-9482 ext. IWP2 www.iwpdoor.com

IWP
Part of the JELD-WEN family

©1999 JELD-WEN, inc. All rights reserved. JELD-WEN, IWP and the IWP logo are registered trademarks of JELD-WEN, inc., Klamath Falls, OR

CIRCLE 25 ON INQUIRY CARD

To

WWW.architecturalrecord.com

news

projects

features
digital architect
green architect
business week/ architectural record awards
interviews

dialogue
editorial
from the field
letters

virtual architect
record houses

continuing education

recruitment

advertisers/ products

professional directories

about record
index
subscribe
advertise
shop record
submit an article
editorial calendar
email policy
privacy policy
contact us

events

site map

home

SEE our new look and exciting new features...

Introducing **Daily News**

Go to Architecturalrecord.com for news from the world of architecture.

July Editorial.com

Looking for Bob Ivy's **July editorial?** Read his award-winning commentary this month **only on architecturalrecord.com.**

Tune in to "From the Field"

Get the latest buzz by *Record* editors from meetings and travels in the field—only on Architecturalrecord.com.

Projects

Connect with the People and Products Behind July Projects

Click Projects for compelling design solutions and links to key resources involved.

sponsored by buzzsaw.com an Autodesk venture

Green Architect

Read about: Mexico's ecology-minded Hotelito Desconocido. **Find web-only 'Green' product reviews, links to manufacturer web sites** and coverage of green issues.

In Their Own Words

Click **Interviews** for an exclusive with architect **Santiago Calatrava, and a profile of Iole Allessandrini.**

Digital Architect

New this month – Software for Historic Building Restoration
Connect to high tech resources through **web-only IT Vendor Guides** and software reviews, with links to manufacturer web sites.

Events & Competitions

Check the web for the latest architectural events & competitions.

Earn CES Credits Online

Read RECORD's **building science** features/**continuing education** self-study courses and file online for CES credits.

Hot Jobs Designing Cool Projects

Go to Recruitment to find career opportunities for architects and related professionals.

NECA/IBEW CONTRACTORS • WE DO MORE

We're not in the insurance business, but we sell peace of mind.

There's no substitute for getting the job done right the first time. NECA/IBEW contractors have the best trained workforce to head off potential problems before they happen and to insure healthy performance on any job.

NECA/IBEW contractors deliver peace of mind on all types of electrical construction jobs, especially those involving the latest technologies. NECA contractors can also monitor the efficiency and reliability of a power distribution system, providing preventive maintenance that saves money and helps to avert system breakdowns.

When you need the job done right the first time, on time and on budget, call a NECA/IBEW contractor.

To hire an electrical contractor who employs IBEW workers, contact your local NECA chapter or IBEW local union. To find a NECA contractor, call The NECA Connection at 800-888-6322 or visit our website.

http://www.necanet.org

National Electrical Contractors Association
International Brotherhood of Electrical Workers

A COMMITMENT • THE QUALITY CONNECTION TO EXCELLENCE

CIRCLE 96 ON INQUIRY CARD

Vulcraft steel joists span a 4-acre skylight, the second largest in the nation.

CHECK INTO THE OPRYLAND HOTEL A

With a $175 million expansion, Opryland Hotel in Nashville, Tennessee claims the title of the largest combined hotel and convention center under one roof anywhere.

The centerpiece of this project is the Delta, a 4.5-acre interiorscape topped by a 4-acre glass roof weighing 650 tons and rising 150 feet overhead. It is the second largest skyli in the nation. And at the heart of this shimmering structure Vulcraft steel joists, more than 900 of them.

When the architect's design criteria called for a ligh airy look, the structural engineer recommended Vulcraft slop

P.O. Box 637, Brigham City, UT 84302, 435/734-9433 P.O. Box 100520, Florence, SC 29501, 843/662-0381 P.O. Box 169, Fort Payne, AL 35967, 256/

Architect: Earl Swensson Associates Structural Engineer: Stanley D. Lindsey & Associates General Contractor: Hardaway Construction Co. Steel Fabricator: Wylie Steel

ECK OUT THIS SPECTACULAR SKYLIGHT.

sts. Not only did they meet the aesthetic requirements,
ey offered the most economical system compared to
er alternatives studied. And Vulcraft's experienced
eers along with a committed shipping department
d a problem-free construction process.

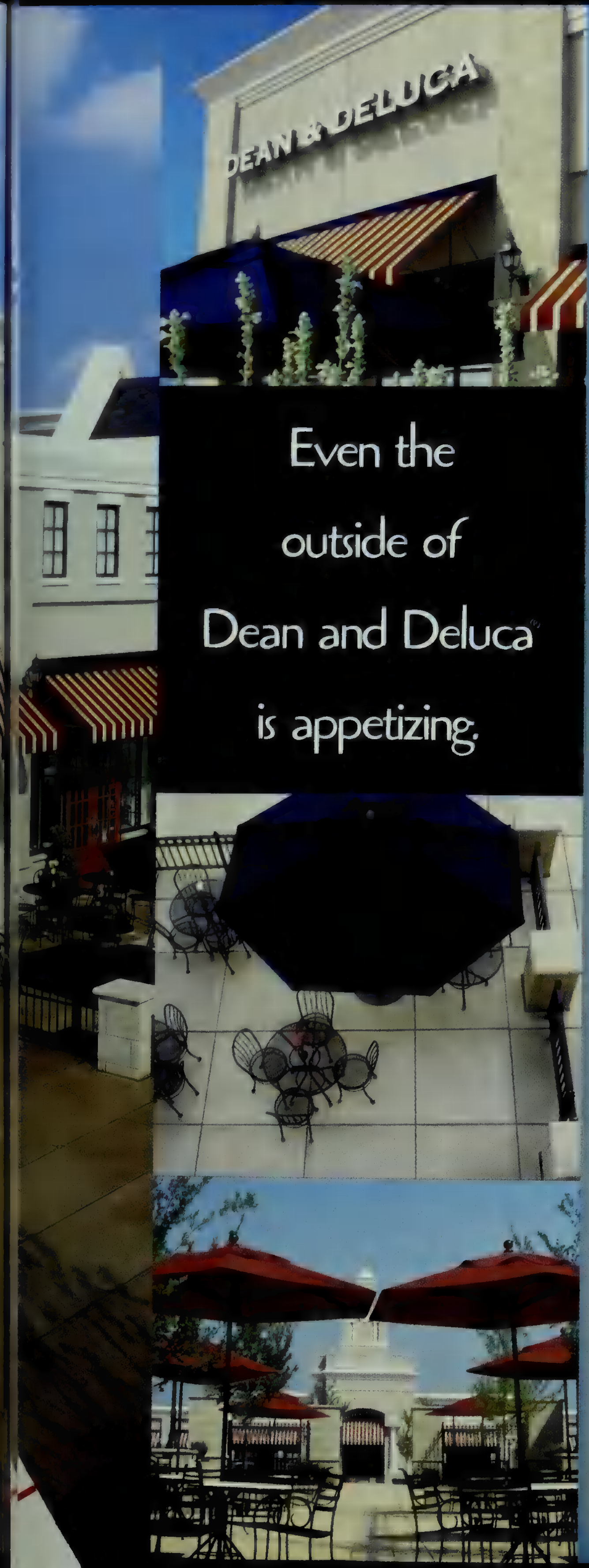
As the largest and most experienced steel joist producer, Vulcraft plays an important role in many of the most innovative projects being built. For more information contact any of our six plants. And remember, the sky's the limit. www.vulcraft.com

VULCRAFT
A Division of Nucor Corporation

CIRCLE 26 ON INQUIRY CARD

x 186, Grapeland, TX 75844, 409/687-4665 P.O. Box 59, Norfolk, NE 68702, 402/644-8500 P.O. Box 1000, St. Joe, IN 46785, 219/337-1800

® Sunbrella Firesist and are registered trademarks of Glen Raven Mills, Inc. • SEF® is a trademark of Solutia. Dean & Deluca® is a registered trademark and is used with permission. Awning fabrication by Plastex, Charlotte, NC • www.sunbrella.com



Before you smell the aroma, before you taste the food, before you walk through the door, you get a sense of the wonderful experience that awaits. The culinary masters at Dean & Deluca® even know how to whet your appetite with architectural design. By blending the beauty of Sunbrella Firesist® modacrylic fabric with the building's European style, they've created a true gourmet presentation.

But presentation is only part of the recipe. Choosing the finest ingredients for building design is vital. That's why Sunbrella Firesist was the obvious choice. Superior flame retardancy is inherent in the fabric, instead of just applied to the surface. In fact, it's woven from SEF+™ self-extinguishing modacrylic fibers. So it meets the strictest fire codes. Sunbrella Firesist fabric also resists fading from sun and rain, because our solution-dyed colors are locked-in. That keeps it looking fresh for years. In fact, we offer a five-year limited warranty. Sunbrella Firesist even makes the inside of Dean & Deluca more appealing. Our breathable awning fabric doesn't trap heat or moisture, which reduces air conditioning costs and keeps patrons comfortable.

When you design your next gourmet masterpiece, choose Sunbrella Firesist. We have more than 25 styles and colors to choose from. So you can find something that suits your personal taste.

Check the Yellow Pages under "Awnings and Canopies" for the awning dealer near you. Or contact Glen Raven Custom Fabrics, LLC, Glen Raven, NC 27217.

sunbrella firesist®
GLEN RAVEN MILLS, INC.

CIRCLE 27 ON INQUIRY CARD

EVERY DESIGN THAT USES DRYVIT WINS.
BUT ONLY ALLEN NISSENBAUM'S WINS THE $5,000 GRAND PRIZE.

dryvit
International
Design
Competition
2000

GRAND PRIZE WINNER

You didn't think we were going to give the $5,000 to everybody who used Dryvit, did you? No, we had to narrow the field down to one, and Allen Nissenbaum, an architect in the Johannesburg, South Africa-based firm of Boogertman Krige (Jhb) (Pty) Ltd. was judged to have used Dryvit best in his design of the Graceland Hotel, Casino & Country Club. In additio to the recognition he earned in this space, he also earned the $5,000 cash prize for his efforts It's not too early to consider your entries for the 2001 Dryvit International Design Competition For details and to download the required entry form, visit us at **www.dryvit.com**. Just click on the 2001 competition logo to find out more. And who knows? Next year this could be your project featured here.

dryvit®
An RPM Company

100% ACRYLIC POLYMER

CIRCLE 26 ON INQUIRY CAR

Paris: The world's most beautiful city gives itself a face-lift

Correspondent's File

By Claire Downey

Being one of the most popular ourist destinations in the world comes with certain responsibilities. For Paris, the price for being the City of Light, is the constant upkeep of an exceptional architecural heritage, a heritage accessed by over 20 million tourists a year. n the past decade, an unprecedented number of landmark buildings have been shut down for mportant renovations, including structural reinforcement. Several eopened this year with spectacuar results, including the Opéra Garnier, the Théâtre du Châtelet, and the Musée des Arts et Métiers. Still others are due to close at the end of the year. Why so many buildings at the same time?

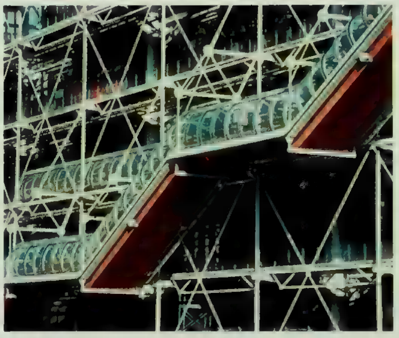
While the budgets for the *grands travaux*, or public works, of he 1980s and early '90s were in heory supposed to cover historic buildings, in reality almost all the noney was spent on the late president François Mitterrand's *grands projets*. Convinced that Paris should not become a museum, Mitterrand initiated a building program that included I. M. Pei's pyramid at the Louvre, the Opéra Bastille, and the Library of France—all monuments to a modern, forward-looking France. Most were awarded through international competitions. These competitions created exhibitions and articles, and the architectural life of the city was buzzing, even if the economy was slowing down.

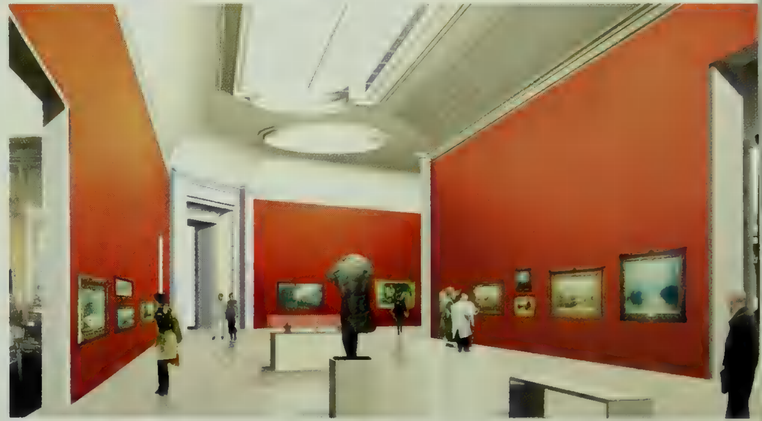
In June 1992, the tone changed. Like a wake-up call, a large piece of the Grand Palais' great glass roof came hurtling down, landing—ironically enough—in the middle of an important design exhibition. Soon after, stone from the Pantheon dome came crashing down. No one was hurt, but the two incidents set off a heated public debate on the state of Paris' historic architecture. After all the money spent on the *grands projets*, Paris' patrimony was crumbling.

Experts had known since the 1970s that, due to soil erosion, the Beaux Arts–style Grand Palais was slowly sliding toward the Seine. Closing the doors to the Grand Hall in 1993, the Minister of Culture set aside $2 billion for the renovation of the 666,000-square-foot space. Yet, while the exhibit space in the northern wing has remained open, the Grand Hall is still closed today, owing to administrative tie-ups, and is presumably still slipping southward.

The Opéra Garnier and the Pompidou Center were also in need of major renovation work. One journalist went so far to write, in a 1994 article in *Le Monde*, of the risk of a "murderous cave-in that menaces the overcrowded Pompidou Center." Fortunately, before that happened, the 20-year-old museum closed for renovation. It reopened in January 2000 with a greatly reinforced structure and more organized interior.

Unveiled on June 20, the completely restored entry facade of Charles Garnier's famous Opéra is a dramatic example of how efficient laser-cleaning techniques have become. What had long been a dull gray, pollution-stained facade has found its original 1875 splendor, revealing limestone from six different quarries, a polychrome of 10 brilliantly polished marbles from Europe and North Africa, mosaic panels edged in gold leaf, and, topping the roofline, brightly gilded sculptures. After being closed for several decades, the loggia above the entry is at last open to the public, offering a commanding view of the Avenue de l'Opéra.





The renovation and modernization of Paris' museums is a priority; the Pompidou Center (top) and the Petit Palais (bottom) are among the newly refurbished sites.

The $6 million facade restoration is the second stage in a multiphase project scheduled to be completed in 2007. Already finished is the restoration of the theater and modernization of the stage and back-of-house facilities. Coming soon, the restoration of the lobby spaces and the side facades.

With all the restoration frenzy going on in Paris, the French have not lost their taste for the modern. For museums in particular, the prevailing philosophy is to save the shell and any protected interior pieces, but not to hesitate to insert a contemporary architecture. According to Jean-Jacques Aillagon, president of the Pompidou

Claire Downey is a writer in Paris, nd an international correspondent or RECORD.

Center, "Today's museum-goer has traveled extensively and has high expectations for the presentation of the art within the museum. This includes the lighting and even the furniture design."

The Musée Guimet will reopen this fall after five years of work by the architect Henri Gaudin, who completely reorganized the circulation and gallery spaces, then added a rooftop Japanese garden. The renovation of the Petit Palais was recently awarded in a competition to Paris-based architects Chaix and Morel. Like its big brother across the street, the Petit Palais was built for the Universal Exposition of 1900. Since then, it has seen its interior broken into boxy spaces with false ceilings and dim corridors. The new design reopens boarded-up windows to views of the city and creates an entirely new museum experience.

Urbanism in Paris has also taken a turn toward showing off its best assets, including the Seine, the grand boulevards, and even the Place de la Concorde. In May, the mayor's office announced a project to improve the quality of parks, architecture, and industrial fringes along the Seine and the Canal Saint Martin. This is in addition to an ongoing project to open 7.5 miles of pedestrian walks along the river's quays and to light Paris' 36 bridges. The newest bridge, the Pont de Solférino, designed by Marc Mimram, was awarded one of France's highest architecture awards in May, but it is not yet open to the public. The arched pedestrian bridge linking the Tuileries gardens with the Musée d'Orsay was deemed dangerous by safety officials and will require the application of an antislip finish to the supposedly treacherous wooden surface.

Charles Garnier's famous Opéra is a dramatic example of how techniques such as laser cleaning are being used.

Facing the Seine, at the eastern edge of the city, are two of Paris' most important urban-housing developments. Bercy, on the Right Bank, is nearing completion, and across the river, the Seine Rive Gauche development that surrounds Dominique Perrault's controversial library is not far behind. Both are linked by a newly automated metro line named Météor.

The grand boulevards leading to the old department stores and the Opéra Garnier are being spruced up under a general plan to control signage and parking, harmonize street furniture, and regulate intrusions on the wide sidewalks by cafes and newsstands. The city has even unveiled plans for an almost car-free Place de la Concorde. Hard to imagine how they would reroute the traffic, but this is one of several published plans being considered.

There may be many fewer flashy projects being built in Paris these days, except Jean Nouvel's Museum of Art and Civilization [see News, page 38], but as the churches, theaters, and museums slowly reopen, one thing is sure—visitors will continue to call Paris "the most beautiful city in the world," for a long time to come. ■

PHÂRO
hansgrohe

Find brightness, transparency a
simplicity in Pharo Moonlight,
easily installed shower panel t
transforms any bath. Come alive w
a 3-function Hansgrohe handshov
and five soothing bodysprays –
perfect features designed in super
materials. Let Pharo transform y
daily shower into an unmatch
experience of refreshing pleasure.

For more information call Hansgrohe
at
800 719-1000

www.hansgrohe-usa.com
CIRCLE 29 ON INQUIRY CARD

LIGHTING **SOLUTIONS**

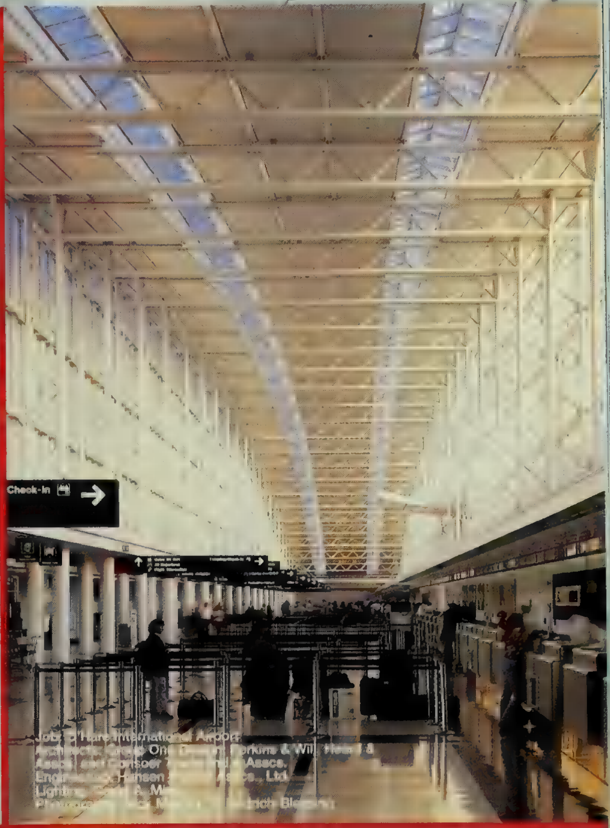
Lightweight steel trusses, tensioned fabric structures and formed panel systems all present unique challenges for lighting. SPI has provided indirect lighting solutions for transportation facilites worldwide.

Combining form and function for greater design flexibility. Providing superior service, outstanding product performance and technical innovation.

Dedicated to making the best fully-integrated lighting systems in the world. SPI

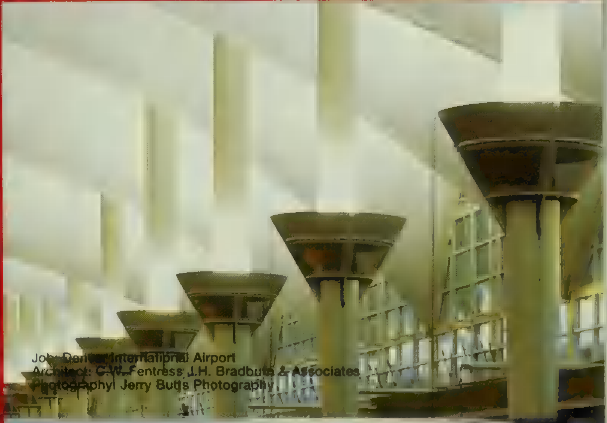
Tel: 262-242-1420
Fax: 262-242-6414
E-mail: spi@spilighting.com

SPI

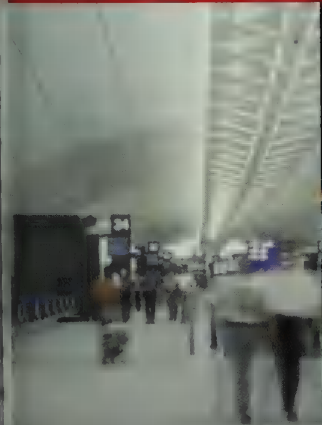


Job: O'Hare International Airport
Architects: [illegible] On[illegible] Perkins & Will [illegible] &
Assoc. [illegible] Assoc.
Engineering: Hansen [illegible] Ltd.
Lighting: [illegible] M[illegible]
Photography: [illegible] Bleckich

Job: Mission Bend Park & Ride
Architect: Rey de la Reza
Photography: Copyright Hester + Hardaway



Job: Denver International Airport
Architect: C.W. Fentress J.H. Bradburn & Associates
Photography: Jerry Butts Photography



TRANSPORTATION

Job: Hong Kong International Airport, Chek Lap Kok
Architects: Foster and Partners
Photography: © John Nye

SPI Lighting Group
SPI
Advent

CIRCLE 30 ON INQUIRY CARD

'What can you do for me?' quickly turned into 'When can we get started?'

Randolph W. Tucker, P.E.
Senior Vice President International Development
Rolf Jensen & Associates, Inc.

My company has always been conscious of growing our business internationally. It's where the real opportunities lie.

When I heard about the CNA Pro International Business Initiative, at first I was skeptical. But after just a few minutes with its director, I knew this was a program that could really help me. They understand my needs and know the right people to network with to make it happen. From private vendors and banks to government agencies. All over the world. It's just one more reason why we know CNA/Schinnerer is the right choice for us.

This advertisement is for illustrative purposes and is not a contract. It is intended to provide a general overview of the services and products offered. Only your policy can provide terms, coverages, amounts, conditions and exclusions. CNA is a registered service mark ,domain name and trade name of CNA Financial Corporation. This program is underwritten by Continental Casualty Company, a CNA company, and is managed by Victor O. Schinnerer & Company.

CNA/Schinnerer is hosting International Business Seminars across the country. Sign up now and learn from industry experts how you can grow your business overseas. For details, fax the following information to International Seminars at 301-951-5444:

Name: ________________

Address: ________________

City: __________ State: ________

Zip: ________ Phone: ________

E-mail address: ________________

Or e-mail us at info@schinnerer.com
or call 301-907-3038
or visit www.schinnerer.com

Victor O.
Schinnerer
& Company, Inc.

CNA PRO

CIRCLE 31 ON INQUIRY CARD

Caveat Emptor: Insurance rates are on the rise

Practice Matters

By Charles Linn, AIA

For over a decade, the cost of professional liability insurance has been dropping. From a historic high of 10 percent of revenue for high-risk firms during the 1984 to 1986 policy-renewal years, prices have fallen since 1987 to rock-bottom lows—one-half of one percent for some large practices.

In the early years of this lower-price trend, architects took an active role in reducing their premiums by taking advantage of risk-management programs offered by the AIA and the insurance industry. At the same time, the construction industry slowed significantly, lowering claims. During the current economic recovery, premiums stayed low for two reasons: the insurer's risk was spread over a larger pool of work, and more carriers entered the liability insurance market, further depressing prices.

Observers of the insurance industry now caution that prices will soon begin to rise again. "What has happened," says Dick Crowell, a senior vice president at the DPIC Companies, the Monterey, Calif.-based professional liability insurer, "is that the total cost of payouts, settlements, and defense costs for claims has recovered from the lows we experienced in the late 1980s and early '90s, and has been climbing for the last six to eight years. These costs have crossed over the insurance companies' income line, which has been coming down for 13 years."

Donna Parsons, construction industry group manager at CNI/Victor O. Schinnerer & Company, of Chevy Chase, Md., agrees. "Some firms have been seeing prices even lower than one-half of one percent. These price levels are not sustainable for the insurance companies. None of them can do it." Parsons says that claims losses on firms with annual revenues of $5 to $10 million "have caught up with all of the insurers, and everyone is talking about raising rates for these firms."

Crowell says, however, that firms will not see the drastic cost increases that occurred in the mid-1980s. "And I would call this an adjustment, rather than an across-the-board increase," says Crowell. "We're still trying to figure out which specific types of firms need to be paying a little more."

OWNERS, AND ESPECIALLY DEVELOPERS, BECOME MORE LITIGIOUS WHEN MONEY GETS TIGHT.

Claims climb with the prime

But architects should also pay attention to the economy, keeping in mind that increases in interest rates and a slowing of the economy have historically meant an increase in claims and premium prices. Both Parsons and Crowell say that owners, and especially developers, become more litigious when money gets tight. "There have been times when litigation was actually a profit center for developers," says Crowell. "That isn't true now, but when the economy begins to tighten up, litigation increases in every profession."

Parsons adds, "In the past we typically didn't see claims until the boom slacked off because the clients had money to throw at problems and they would. As interest rates go up, clients don't have the extra money it takes to solve their problems." This means that most claims typically occur when work slacks off, the worst time in the economic cycle for the architect.

Architects should also be aware that current activity in the design and construction industries is propelling liability insurers into new territory. "The problem for architects now isn't claims, it's staffing. Architects are either having junior staff run projects, or they've hired new people who are making mistakes because they are unfamiliar with their new employer's procedures," says Parsons, who speculates that, "we're potentially building a problem here that could hit us in a year to two years as we see the results of work done by inexperienced people." Architects who are using temporary employees should also double-check to make sure those workers are covered by their insurance. Not all carriers' policies do this.

Parsons is also concerned that owners who want design-build delivery are hiring contractors as their sole supplier. The contractors, in turn, hire architects and engineers to do design and construction documents, then dismiss them once the drawings are done. "We've always been an advocate for construction-phase services because the architects have a chance to catch problems before the building is finished. If you don't have that chance, you are potentially at risk."

Proceed with caution

Everyone is at risk. The only architects who are "suitproof" are those who have no more assets "than a laptop and their imaginations," Dick Crowell says. Michael Tardiff, Assoc. AIA, the AIA's director of professional practice, recently issued a statement cautioning architects to continue to be diligent in their risk management practices even though times are good, to continue to educate staff members, and to be cautious about selecting an insurance carrier strictly on the basis of price. Many carriers dropped out of the market during the 1984 through 86 period, when claims numbers were spiraling out of control, leaving design professionals to seek new policies at a time when getting insurance was costly.

Insurance companies that have the longest track record in the business offer discounts for architects who try to minimize claims. This can be accomplished, for example, by participating in risk-management seminars and continuing-education programs, or putting the firm's procedures and practices through peer review.

Today it is still a buyers' market for professional liability insurance, and carriers are very willing to customize an insurance policy that will meet a firm's individual needs. Architects should definitely take advantage of this while it lasts. ■

"Beautiful buildings are… works of art using the best technology."

Frank Lloyd Wright

Bidcom™
Build Better.

www.bidcom.com

Bidcom, Inc. helps companies manage risk, improve profitability and complete building projects on time. Bidcom's Suite of e-Business Services are delivered through a comprehensive, integrated online environment that allows building industry professionals to communicate and collaborate, manage business processes, conduct e-commerce and access valuable industry content. Bidcom's easy-to-use services support all participants throughout the complete lifecycle of multiple building projects, including: owners and real estate developers; architects and design professionals; general contractors and sub-contractors; and facilities managers.

© 2000. All rights reserved. Bidcom and the Bidcom logo are trademarks of Bidcom, Inc.

The architectural media: Fashion runway or teaching tool?

Critique

By Neil Denari

Not long ago, I ran into an acquaintance in an architectural bookstore in Los Angeles. He rushed over to me and said, "Great to see you, but what are you doing here?" When I asked what he meant, he said that he was surprised to see me as a consumer of architecture books instead of just a producer of them. He mentioned a book I had recently published, the first substantial one on my work and ideas, and said it was clear to him that I didn't need to borrow (or worse, steal) from others to develop my work. He was sure that I had no reason to purchase or even look at books since, for him, my work must come from my soul, not from the pages of recent architectural publications.

Well, it was reassuring to know that someone could see how much effort went into my work and could detect palpable evidence of soul in it. However, to me, this incident was also an indication that architects often have difficulty with the idea that media influences them; they think it impedes originality.

ARCHITECTS OFTEN HAVE DIFFICULTY WITH THE IDEA THAT MEDIA INFLUENCES THEM; THEY THINK IT IMPEDES ORIGINALITY.

Everyone today inhabits an exhilarating Technicolor world of film, television, graphic design, and informational images of all kinds. We all have our fetishes, addictions, and hidden and expressed forms of censoring this visual and textual overload. As architects, we employ ideas and influences from a variety of fields as a way to make our work reflect our contemporary environment. In filtering the excessive and the trivial, we search for the images, ideas, and conditions that will help us develop new and, it is hoped, personal works of architecture.

For many, film is an inspiring and useful medium. While I am fixated on the graphic aspects of Michelangelo Antonioni and Jean-Luc Godard, other architects look to Peter Greenaway, Wim Wenders, or Alfred Hitchcock for ideas and images that might be translated to space. Still others choose to explore and acknowledge the influence of video, photography, new developments in software, and current critical theory on their work. Yet the one area of research that seems to be the most quickly dismissed by architects is architecture itself.

Some architects believe that media such as monographs and journals that publish the work of contemporary architects, including *El Croquis* and even the magazine you are reading at this moment, are nothing but a kind of empty fashion world, a world violently at odds with the heavy timelessness of authenticity, a world where images of buildings are indistinguishable from the ads seen in *Vogue* or *Elle* magazines. Other architects have an opposite view. They see the architectural media as providing a set of templates to work with in the search for a critically acceptable architecture. While, as its detractors claim, the media will always appeal to many as a field of vacuous images deployed by the dangerous forces of seduction (building image equals fashion ad), it can conversely work as a didactic tool for those architects who are curious witnesses to the often-brilliant work produced by many of their contemporaries.

Fashion or substance? Architects debate the media's role.

By consciously resisting the influence of the media, one embraces the long-standing idea that it is not possible to create truly compelling and personal work by researching the work of others. Indeed, it is common for architects to take pride in saying that they do not look at the work of other architects because they are engaged in a dramatic and at times emotional struggle to reveal the self. It is an approach I respect but would never adhere to. Certainly no one would want to be accused of unconsciously (or otherwise) repeating the work of other architects, but the drive to produce personal work should not obscure the necessity of making that work a part of the contemporary discourse of architecture, nor should it gloss over the learning opportunities inherent in the media.

Across the architectural landscape, movements arise through the forces of debate and critical

Neil Denari is the director of SCI-Arc and the author of Gyroscopic Horizons.

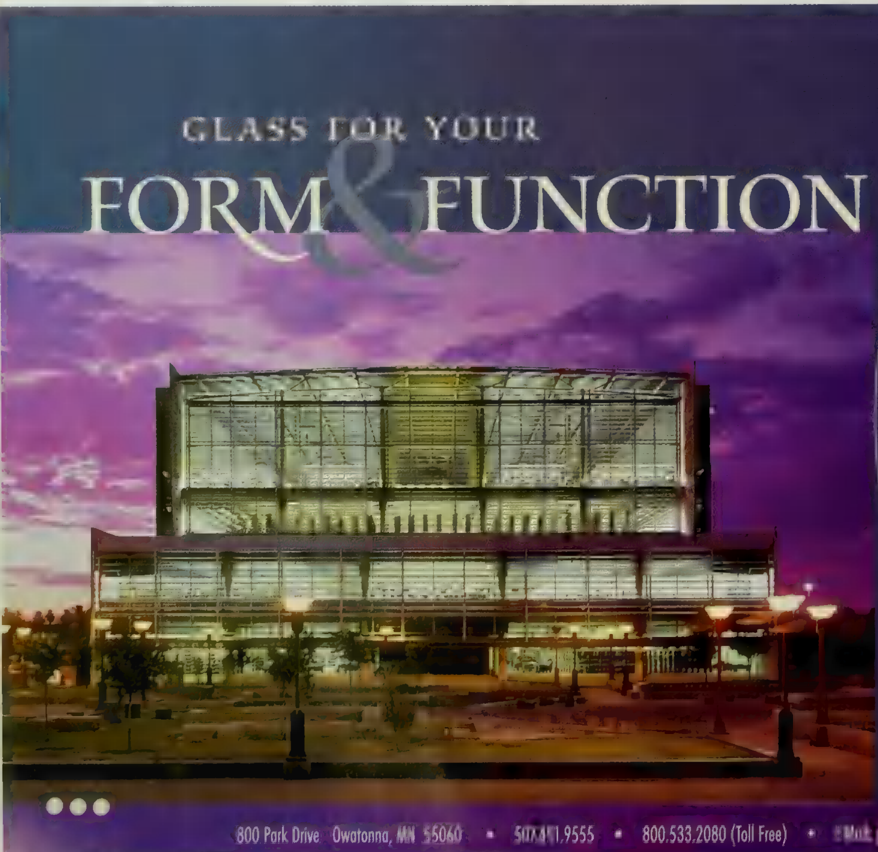
confrontation. But they also develop through osmosis: In Holland, many architects share a hyper-Cartesian planning process; throughout France and Switzerland, experimentation with glass has become a focus; an axis running from Los Angeles through Vienna has maintained an obsession with the concept of experimental form. In all cases, it becomes clear that architects are learning from one another, if only by real or spiritual proximity. But how often does an architect acknowledge the influence of a contemporary?

IT BECOMES CLEAR THAT ARCHITECTS ARE LEARNING FROM ONE ANOTHER, IF ONLY BY REAL OR SPIRITUAL PROXIMITY.

The desperate search for originality is a powerful and at times inhibiting phenomenon; it is an area where the narcotic of the media, the rhetoric of resistance, and the ego create conflicted desires. Whether as an expression of disinterest (real or feigned) or as a method of resisting the temptation to mimic the work we like the most, the act of rejecting the media is more than anything a way to protect the integrity of one's ideas. But I believe that using the media to help place our own design issues and solutions within the larger discourse on architecture can make our ideas more relevant and improve their execution. Although conventional wisdom suggests that, as an architect moves forward in his or her career, ideas and areas of research become more and more focused and less prone to submit to fashion, I cannot imagine being a self-imposed media exile. I continue to believe that media research is an important factor in extending the field of collective architectural progress. For me, looking closely at the work of contemporary architects as a series of case studies continues the tradition of learning that begins in school.

There is quite a big gap between the unapologetic copyist and the private poet in terms of how each uses the media. Indeed, one must use the media for expressed purposes, for strategic ends. For instance, an architect interested in formal complexity might find the work of Herzog & de Mueron unappealing and the work of Coop Himmelblau quite fascinating. What might compel an architect to buy a monograph on both, despite the preference for one, is that both offices use glass envelopes in particularly interesting ways. Whether through extreme flatness, graphic pattern-making, or unthinkable acute angles, both are extending the possibilities of the architectural skin. If Toyo Ito splits the difference between these two offices, then one might study his work as a hybridization of subtle geometric impulses within a smooth, technically expressive skin. Accompanying the analysis of contemporary buildings are project descriptions, position articles, and critical interviews that make it possible to compare stated ideas to project performance. When I read such material I am inclined not only to ask myself if I am convinced by the arguments, but also to wonder where I see my own work in relation to these propositions. I cannot imagine challenging my own thinking without studying the architecture of others.

After all, even if one has a vision no one else can produce, why should others automatically care that it exists? Newness, for all its power to captivate, must come from intense forms of research and development within the field of global architectural activity if it is to be significant. ■



No matter what form or function your project takes on, Viracon offers you the most complete range of architectural glass products and services available worldwide. We work daily with our clients to deliver performance solutions that meet their individual requirements. Dedicated to staying on the cutting edge of technology, we are constantly bringing new and exciting products to the market for both interior and exterior applications. Our complete product line includes insulating, laminated, silkscreened, spandrel, security, hurricane-resistant, acoustical, tempered, heat-strengthened and high-performance coated glass. Viracon's commitment to providing glass systems—within budget and on time—ensures you will successfully meet and exceed *your* client's needs.

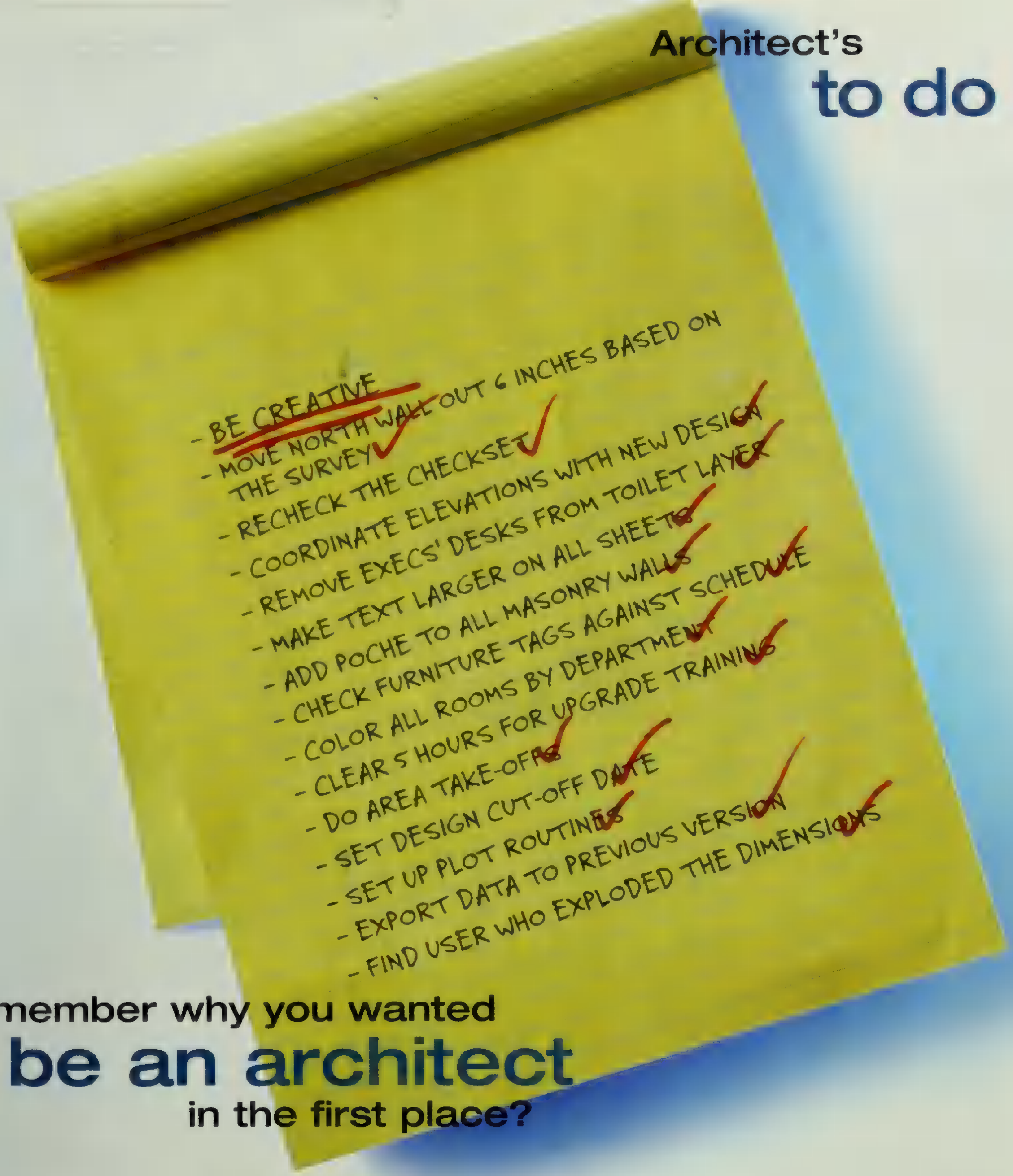
VIRACON

"The Leader in Glass Fabrication"™

800 Park Drive Owatonna, MN 55060 • 507.451.9555 • 800.533.2080 (Toll Free) • E-Mail: glass@viracon.com • www.viracon.com

CIRCLE 32 ON INQUIRY CARD

Architect's
to do list:


- ~~BE CREATIVE~~
- MOVE NORTH WALL OUT 6 INCHES BASED ON THE SURVEY
- RECHECK THE CHECKSET
- COORDINATE ELEVATIONS WITH NEW DESIGN
- REMOVE EXECS' DESKS FROM TOILET LAYER
- MAKE TEXT LARGER ON ALL SHEETS
- ADD POCHE TO ALL MASONRY WALLS
- CHECK FURNITURE TAGS AGAINST SCHEDULE
- COLOR ALL ROOMS BY DEPARTMENT
- CLEAR 5 HOURS FOR UPGRADE TRAINING
- DO AREA TAKE-OFFS
- SET DESIGN CUT-OFF DATE
- SET UP PLOT ROUTINES
- EXPORT DATA TO PREVIOUS VERSION
- FIND USER WHO EXPLODED THE DIMENSIONS

Remember why you wanted
o be an architect
in the first place?

itecture is all about composition. . . order. . . harmony.

il now, however, architectural CAD software has been complicated, unwieldy, inconsistent with the real work of architecture.

t changes all that.

- vit makes it easy to design, because its parametric building modeler courages design alternatives.
- vit makes it easy to innovate, because it instantly revises all plans and views fected by any change.
- vit makes it enjoyable to use CAD, because you work directly with real rametric building components, not lines and arcs.
- Revit makes it easy to build, because it automatically maintains schedules with drawings. Revit always guarantees the model's consistency.
- Revit works with your current software, because it can open, read, and write industry-standard files.

In short, Revit changes everything. With Revit, your architectural software adapts to the way you work, not the other way around.

For more information, visit **www.revit.com**. You'll also discover a new way to buy Revit, via subscription. It's revolutionary. Just like everything else about Revit.

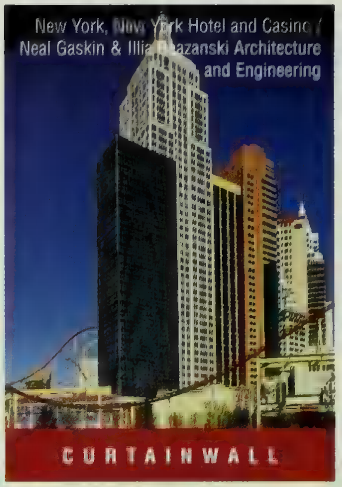
1 877 47 REVIT

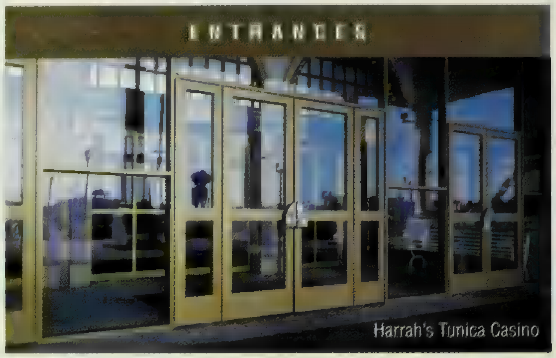
revit
revolutionizing building technology

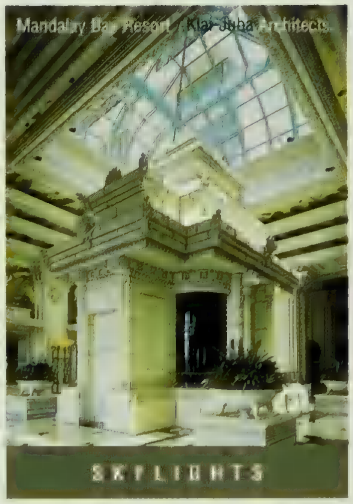
CIRCLE 33 ON INQUIRY CARD

Copyright© 2000 Revit Technology Corporation
Revit is a trademark of Revit Technology Corporation

A Sure Bet


New York, New York Hotel and Casino /
Neal Gaskin & Illia Ryazanski Architecture and Engineering
CURTAINWALL





When it comes to casinos, it's best to bet on a sure thing.

At The Vistawall Group, we've helped construct casinos fit for the highest rollers.

From our curtainwall and skylights to our custom windows and doors, The Vistawall Group is known for providing superior building products. And you can bet that we're the dealer's choice.

The Vistawall Group has provided architectural products for some of the finest casinos in the country. We're your single source supplier: designing, engineering and manufacturing custom products for everything from major hotel/casinos and horserace tracks.

The Vistawall Group. Why gamble on anything else?

THE
VISTAWALL
GROUP
BUTLER MANUFACTURING COMPANY

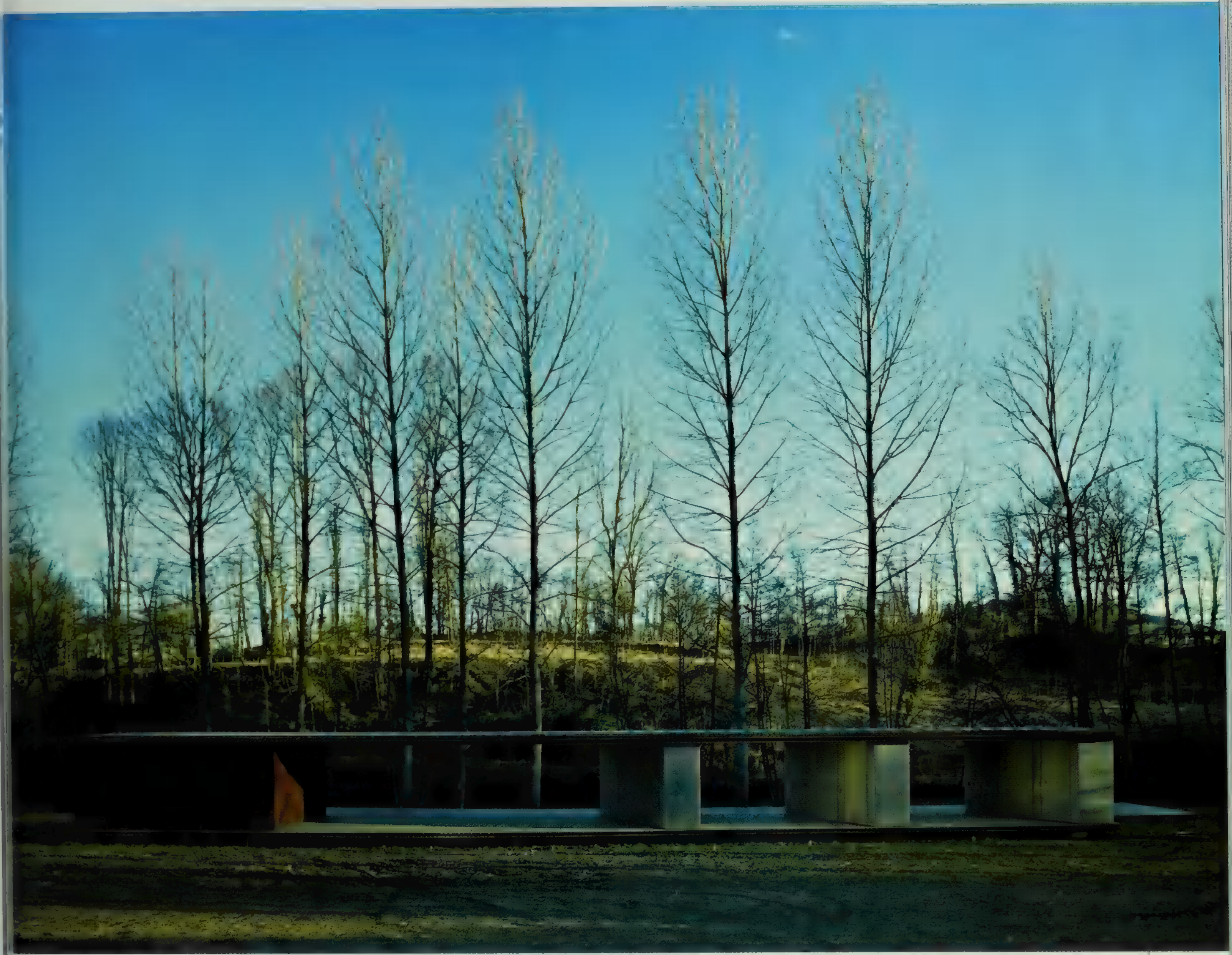
800-869-4567
fax: (972) 551-6264
http:\\www.vistawall.co

The Vistawall Group
Butler Manufacturing Company

VISTAWALL ARCHITECTURAL PRODUCTS
MODULINE WINDOW SYSTEMS
NATURALITE SKYLIGHT SYSTEMS
SKYWALL TRANSLUCENT SYSTEMS

CIRCLE 34 ON INQUIRY CARD

Snapshot



y David Cohn

A bathhouse turns swimming into a fine art

ith its softly burnished volumes of sandblasted stainless and corten
eel spaced between horizontal planes of roof and floor, this diminu-
/e bathhouse in the woods looks more like an elegant sculpture or
rge piece of furniture than a building. Its luminous, almost seam-
ss volumes provide changing rooms, showers, toilets, and a
freshments kiosk for an old river swimming hole at the edge of the Spanish town of Olot, in the Catalan
ovince of Gerona, 50 miles north of Barcelona. Designed by the young Olot-based architects Rafael Aranda,
arme Pigem, and Ramón Vilalta of RCR Arquitectes, the pavilion is one of several elements in the Tussols-Basil
uvial Park, which also includes an athletic field and a meandering, floating promenade among the trees.

The pavilion was carefully sited as a point of transition between the town and the river. Its closed volumes are
aced and shaped to best reveal the trees and landscape between them. The pavilion is gently curved in plan, fol-
wing the curving bank of the river, and is raised slightly above the ground against possible flooding. An adjacent

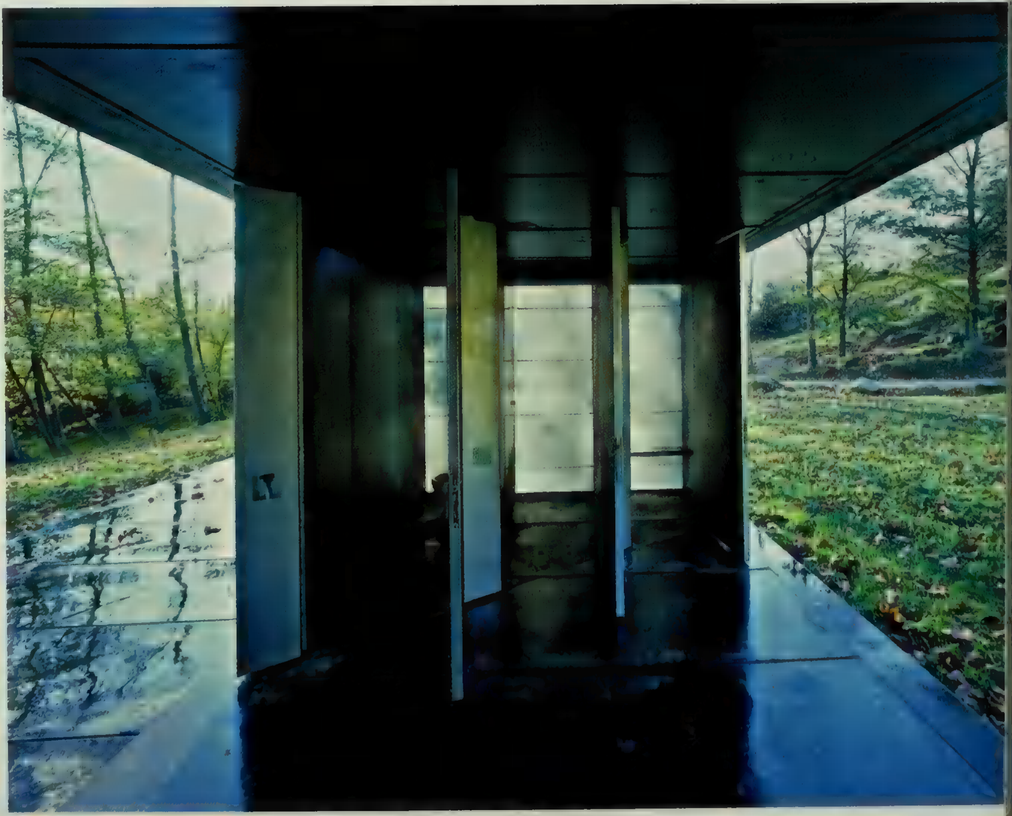
platform on the river side serves as a gathering space for bathers. The detailing and materials have been designed in part to resist vandalism. Interior spaces are finished in stainless steel, and daylight filters through panels of glass sandwiched between perforated steel sheets.

Trained eyes will note the architects' nod to Mies van der Rohe's Farnsworth House in Illinois, the tightly packed, nature-friendly Usonian houses of Frank Lloyd Wright, and the finely crafted minimalist boxes of Donald Judd's sculptures. So it is not surprising to learn that the architects have backgrounds in fine arts and spent time studying the traditional architecture and culture of Japan, which they first visited in 1989.

RCR's principals intentionally established their practice far from the dynamic but overcrowded architectural scene of Barcelona, where they were trained. But their focus on the building as an exquisite object is close in spirit to Barcelona's rich tradition in furniture, interior, and retail design, a reflection of the mercantile and manufacturing basis of the city's prosperity since the 19th century. This sophisticated, cosmopolitan sensibility treats buildings with the same upclose intensity as household objects or graphic designs. Everything from jewelry to entire buildings is judged by the same criteria of craft, elegant efficiency, style, originality, and fashionable aloofness.

In the Olot bathhouse, a slight curve in plan, along with angled entry faces of the changing rooms and soft metallic surfaces give the project a slightly off-balance, quirky character, endowing the object in the woods with ambiguous expressivity. ■

With its spare lines and fine detailing, the pavilion serves as elegant transition between land and water (above and left). Daylight enters interior spaces through glass sandwiched between sheets of perforated steel (below).



Timely Offers A New Edge Of Opportunity.

Steel Door Frames That Match Clear Anodized Aluminum.

Timely TA-28 Aluminum Casing
A full width aluminum casing without a reveal in prefinished ALUMATONE™ or clear anodized.

Timely TA-23 Aluminum Casing
Clean, crisp lines of aluminum with a 1/4" reveal in prefinished ALUMATONE™ or clear anodized.

POSITIVE PRESSURE APPROVED

Alumatone™, the latest addition to Timely's extensive selection of finishes, provides the look of clear anodized aluminum in a steel door frame. Now, you can coordinate clear anodized aluminum exterior windows with color matching prefinished steel door frames from Timely. Timely's prefinished steel frames will meet your code requirements including full **90-minute fire ratings.**

New Alumatone™, like all Timely finishes, is a baked-on polyester base paint, applied in coil form to assure superior durability, performance and appearance. Five casing design options are available including 2 aluminum profiles offering the crisp lines of aluminum.

SEE US AT DHI CONVENTION & EXPO, BOOTH #527

© 2000 Timely

Timely is recognized as the originator of the prefinished drywall frame concept. For over 30 years, we've provided steel frames that feature full perimeter anchoring for extra strength and a snap-lock casing system plus matching borrowed lites and sidelites. Contact us now to learn more about the new Alumatone™ finish and the Timely prefinished steel door frame system.

TIMELY
PREFINISHED STEEL DOOR FRAMES
A DIVISION OF S.D.S. INDUSTRIES, INC.
CIRCLE 35 ON INQUIRY CARD
10241 NORRIS AVE. ▪ PACOIMA, CALIFORNIA 91331-2292
(818) 896-3094 ▪ (800) 247-6242 ▪ FAX (818) 899-2677
9782 INTEROCEAN DRIVE, CINCINNATI, OHIO 45246
(513) 682-9600 ▪ (800) 346-4395 ▪ FAX (513) 682-4102

Visit us on the internet at http://www.TimelyFrames.com

Every VT door is built to withstand 1,000,000 slams.
[illegible] door face is a Wilson[illegible] Wild Che[illegible] VT doors meet or [illegible]

Beautiful. Dependable. Genuine. And unlike so many other things in this world, each one comes with a lifetime guarantee. VT decorative laminate and wood veneer doors. For more information, call 1-800-827-1615 ext. 210; log on to www.vtindustries.com, or e-mail door_info@vtindustries.com.

VT INDUSTRIES **Architectural Wood Doors**
CIRCLE 36 ON INQUIRY CARD

COPPER SALES, INC.
UNA·CLAD

800-426-7737

www.UNACLAD.com

CIRCLE 37 ON INQUIRY CARD

the BEST in ROOFING METALS

TCS® AND TERNE just got better!

Newly developed TCS II® and TERNE II® offer better corrosion resistance than Follansbee's original TCS and Terne. Coated with a new, revolutionary alloy of zinc and tin, these new environmentally-friendly roofing metals are oxygen-reactive, enhancing their performance in all atmospheres including those in marine areas.

The new alloy, while retaining solderability, is substantially more abrasion and smudge resistant. TCS II does not require painting and transforms its color to an earth-gray oxide as it weathers. TERNE II requires painting and its surface has an excellent affinity to paint.

Follansbee offers you these two outstanding roofing metals-combining many of the time-tested characteristics of the original metals with metallurgical and production improvements which answer the demanding needs of the next century.

We'll be happy to send you substantiating evidence of the excellence of TCS II and TERNE II. Call us toll-free at 1-800-624-6906.

Creating outstanding roofing metals
for more than a century

FOLLANSBEE®
FOLLANSBEE STEEL • FOLLANSBEE, WV 26037
FAX 1-304-527-1269

Visit us on the Website:
www.follansbeeroofing.com

Our E-Mail address:
[illegible]

TCS II® and TERNE II®

for enhanced corrosion resistance in marine and chemical atmospheres

CIRCLE 38 ON INQUIRY CARD

Calatrava speaks... about the genesis of his work and the influences that shape his singular vision

Santiago Calatrava plays an astonishing variety of roles in a specialized age: engineer, architect, sculptor, artist, builder, husband, father. The Spanish-born architect and his wife, Robertina, live and work in an elegant white villa beside Zurich's Lake Zurichsee. On a spring day, he and editor-in-chief Robert Ivy met in a museumlike space on the residence's piano nobile, amid Calatrava's models and works in progress. Yellow light and Bach pierced the quietude, and when he spoke, Calatrava talked like an animated philosopher. The two then strolled to lunch beside the lake, a daily ritual.

ARCHITECTURAL RECORD: *How do you formulate and develop your ideas?*

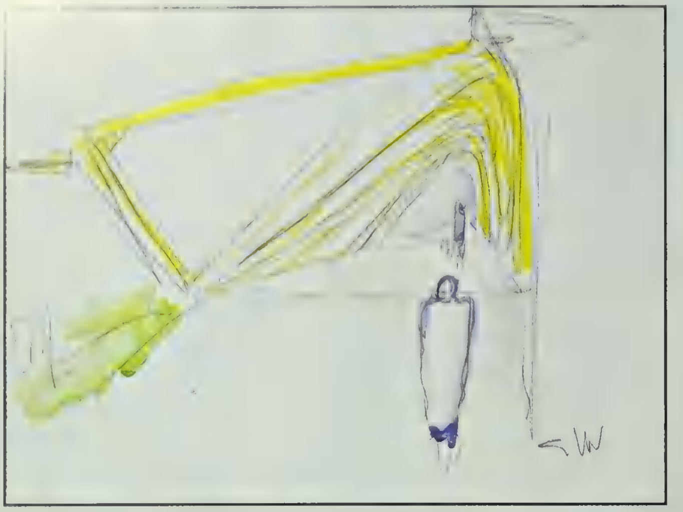
SANTIAGO CALATRAVA: I think I have tried to emphasize the importance of place. The very first impression will come from the place. And I think it is fundamental to feel connected to this place.

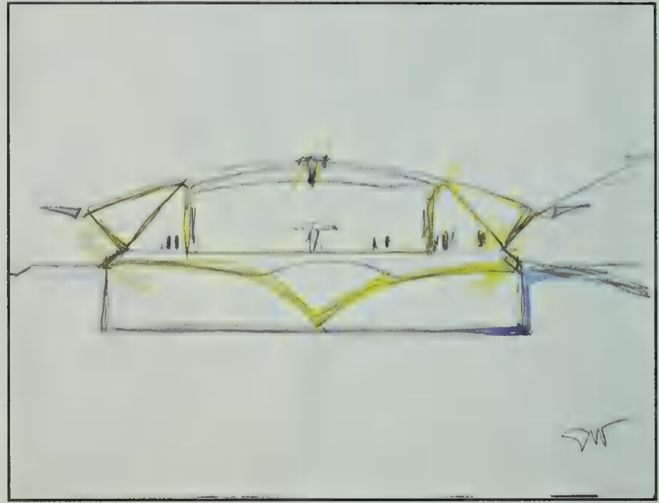
Then I think another relevant element that I would like to emphasize is that the human context is involved, I mean not only the topographical landscape or the climatic or cultural landscape as a natural event but also the human climate.

And with those [elements] I start a work of synthesis. I try to represent ideas as I can, maybe sketching them on paper. And at this point, what I sketch is not only the result of a mental image. At this moment, the sketch is the first manifestation of the idea. In terms of a graphic language, it is just the result of an idea that comes out from these other factors.

I explained that in a very rational way. Probably things don't happen so rationally. Sometimes you think, this is the real shape for this place. But when you say the real shape, you mean also that this is the shape that solves the problems, or some of them, because you also are able through your experience or your capacity for synthesis to understand that things can happen in this shape or in this volume. Understand? This is probably to be done in structures that don't have a very complex function—for example, a bridge, which is a simple link, or a station. When I have to work on projects that have more complex structure, I subdivide the objects in two parts. One we could call a container, in which many things can happen, and the other will be the single part. I employed this approach at the station in Lyon and also at the station in Lisbon.

PHOTOGRAPHY: © PAOLO ROSSELLI





AR: *In Lisbon?*

SC: And in Milwaukee also. You do a part of the building that is much more the essence than the rest of the building, because the rest of the building in all its complexity needs a certain . . . operational understanding of the development of the architecture, in terms of economics, in terms of structure, in terms of modulation and division.

AR: *Your research involves what we call art. You use sketching as a method of seeing.*

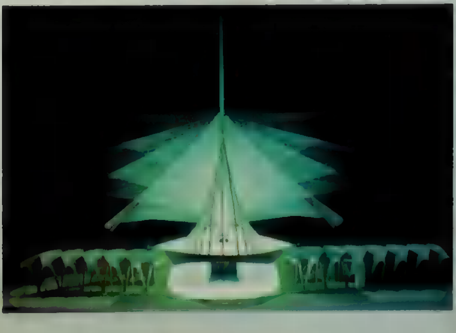
SC: The sketch is the instrument that helps me to materialize the ideas, looking for forms at another level, making studies of morphology in a very abstract way. And probably the most abstract way to do studies of morphology is sculpture. Or drawing the human body—to get the movement, to get the gesture.

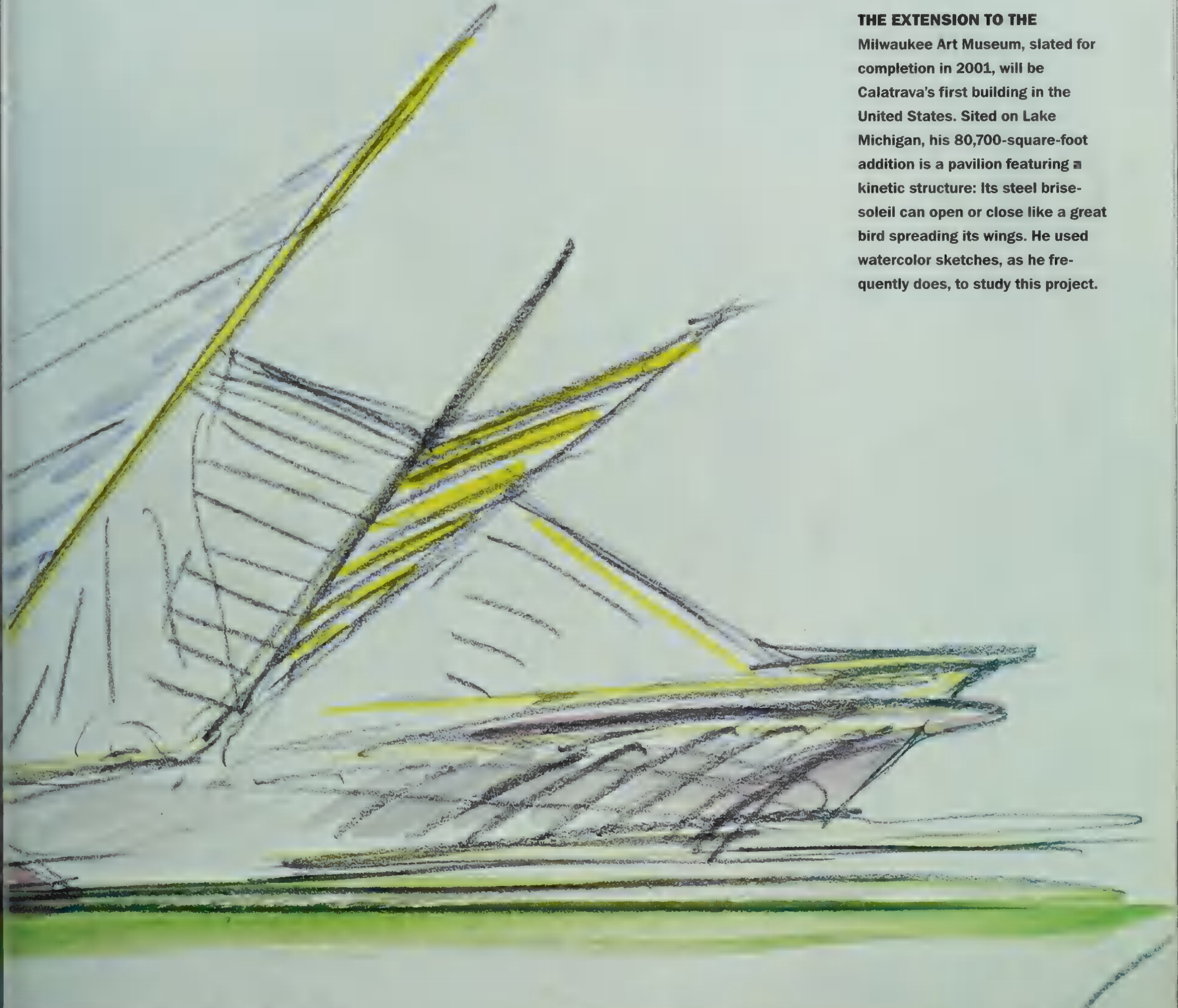
What is important for me is the place and the landscape, the human landscape, the topography. This will inspire or will bring the essence [to a project]. Also important is the analysis of the functional program because this will bring an understanding of the project. On the other hand, the need for the accidental . . . to recreate the research work in which you can channel all the impulses of free thinking, free feeling, shape, or forms or the natural—watching the natural—and this goes from the sketches and the human body into the sculptures. So those are the sources.

"THE SKETCH IS THE INSTRUMENT THAT HELPS ME TO MATERIALIZE THE IDEAS."

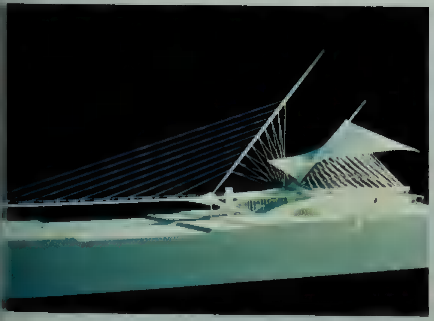
AR: *Contemporary architecture often lacks your level of synthesis. You're bringing another very human gift to design that isn't often done. Do you understand yourself as unusual in that sense?*

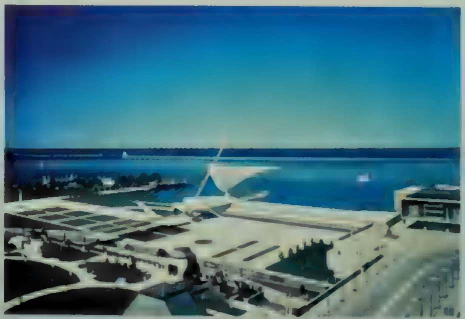
SC: I think the problem of architecture has been [related to] a model of linguistics, or model vocabularies. How to overcome the dryness of the pure analysis? Let's say, for example, my approach to the material part of the architecture may be to remember the works of engineers of the 20th century, or my approach of certain formal aspects may even recall my icons of architecture, [such as] Gaudi . . . projecting myself, I mean projecting my dreams, my knowledge, projecting my personal research. *(continued on page 87)*





THE EXTENSION TO THE Milwaukee Art Museum, slated for completion in 2001, will be Calatrava's first building in the United States. Sited on Lake Michigan, his 80,700-square-foot addition is a pavilion featuring a kinetic structure: Its steel brise-soleil can open or close like a great bird spreading its wings. He used watercolor sketches, as he frequently does, to study this project.





Spanning the divide between pure Structure & Art

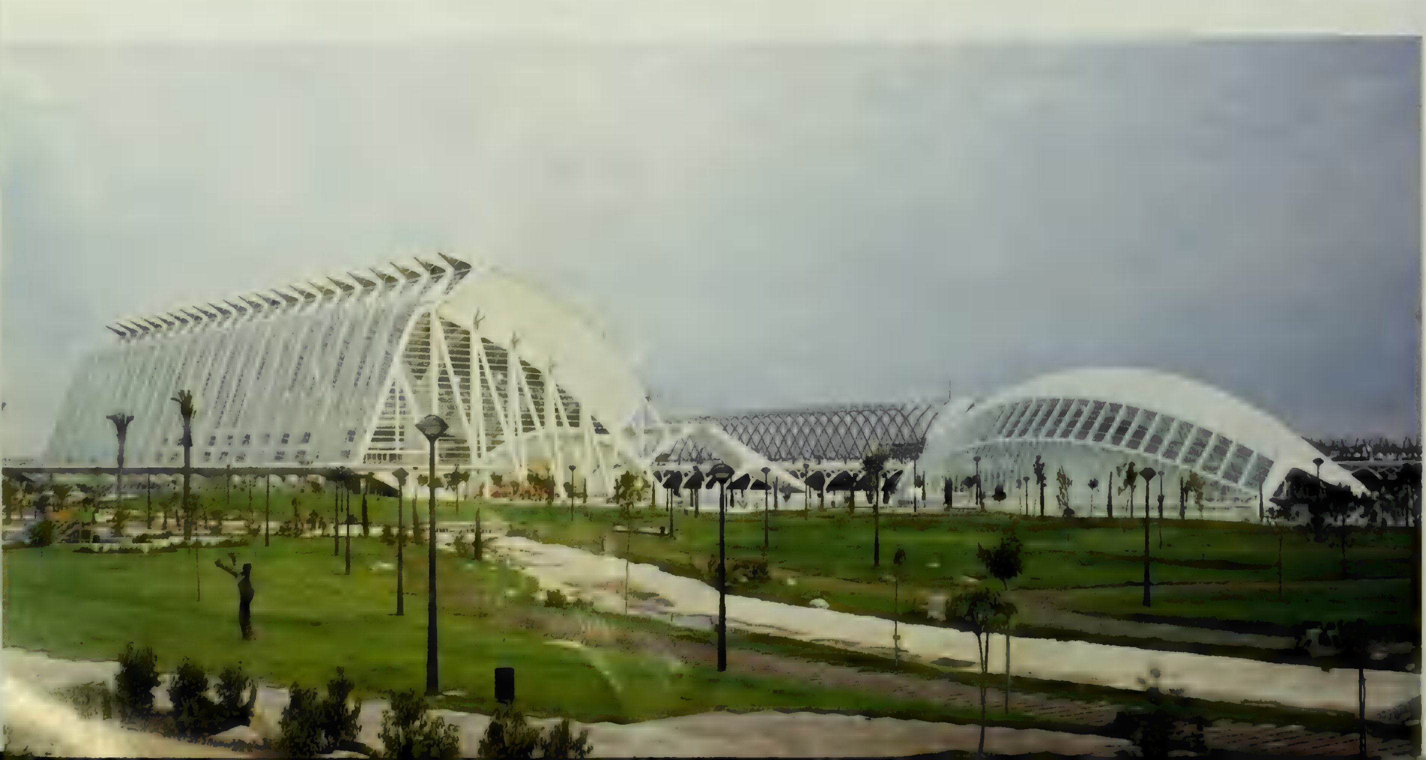
In the architecture of Santiago Calatrava, two vital forces converge: the influence of art and an enlightened, often poetic, attitude toward structural engineering. In his extensive academic background, Calatrava studied art in Valencia before receiving an architectural degree there. He then went on to earn a doctorate in civil engineering in Zurich with a thesis on the "Foldability of Spaceframes." His work follows in the tradition of such visionary engineers as Pier Luigi Nervi, Robert Maillart, and Felix Candela. Unlike most architects, Calatrava has designed numerous bridges—elements often sequestered to the realm of structural engineering—as well as such monumental buildings as museums, airports, and opera houses. Still in his 40s, he has produced a prodigious body of work.

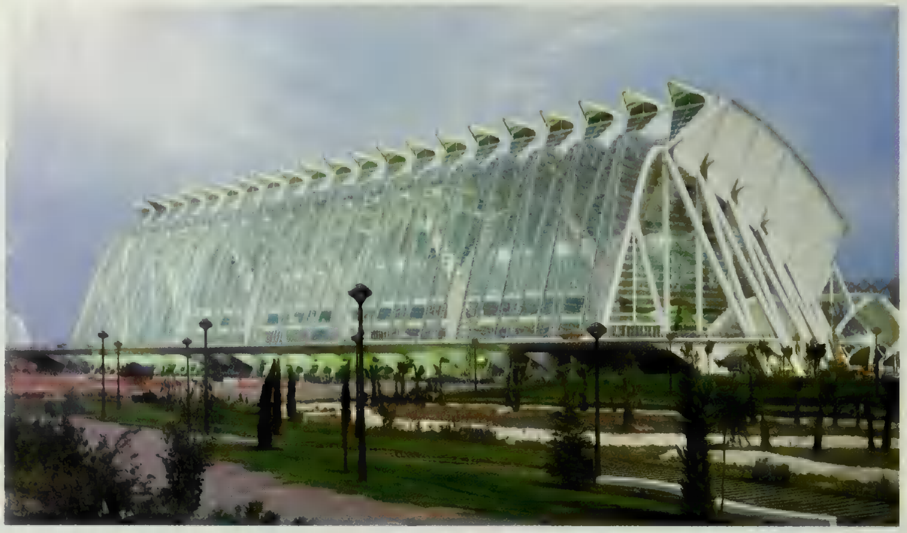
Among Calatrava's projects, certain images or obsessions recur: analogies with biological structures—rib cages, vertebrae, and branching trees—as well as such kinetic forms as the human eye, birds' wings, and figures in motion. Given these repeated sources of inspiration and the forceful role of structural engineering in his architecture, Calatrava tends to favor more symmetry than many architects of his generation, while often exploring the possibilities of buildings with moving parts. His kinetic designs have ranged from the winglike forms of the Milwaukee Art Museum (currently under construction) to the opening and closing "eyelids" of an emergency services center in St. Gallen, Switzerland; the Valencia Planetarium; and the unfolding "petals" of his Reichstag dome (unbuilt).

In his bridges—perhaps the most purely distilled of his forms—standard structural conditions are frequently reconsidered and given an unexpected grace, fluidity, dynamism, and balance. Though the bare bones and the sinuous tendons and ligaments of structure are essential to Calatrava's work, he researches them, in part, through such "softer" disciplines as sculpture making (many of his pieces reside in the front yard of his lakeside villa—his home and office—in Zurich) and watercolor sketching.

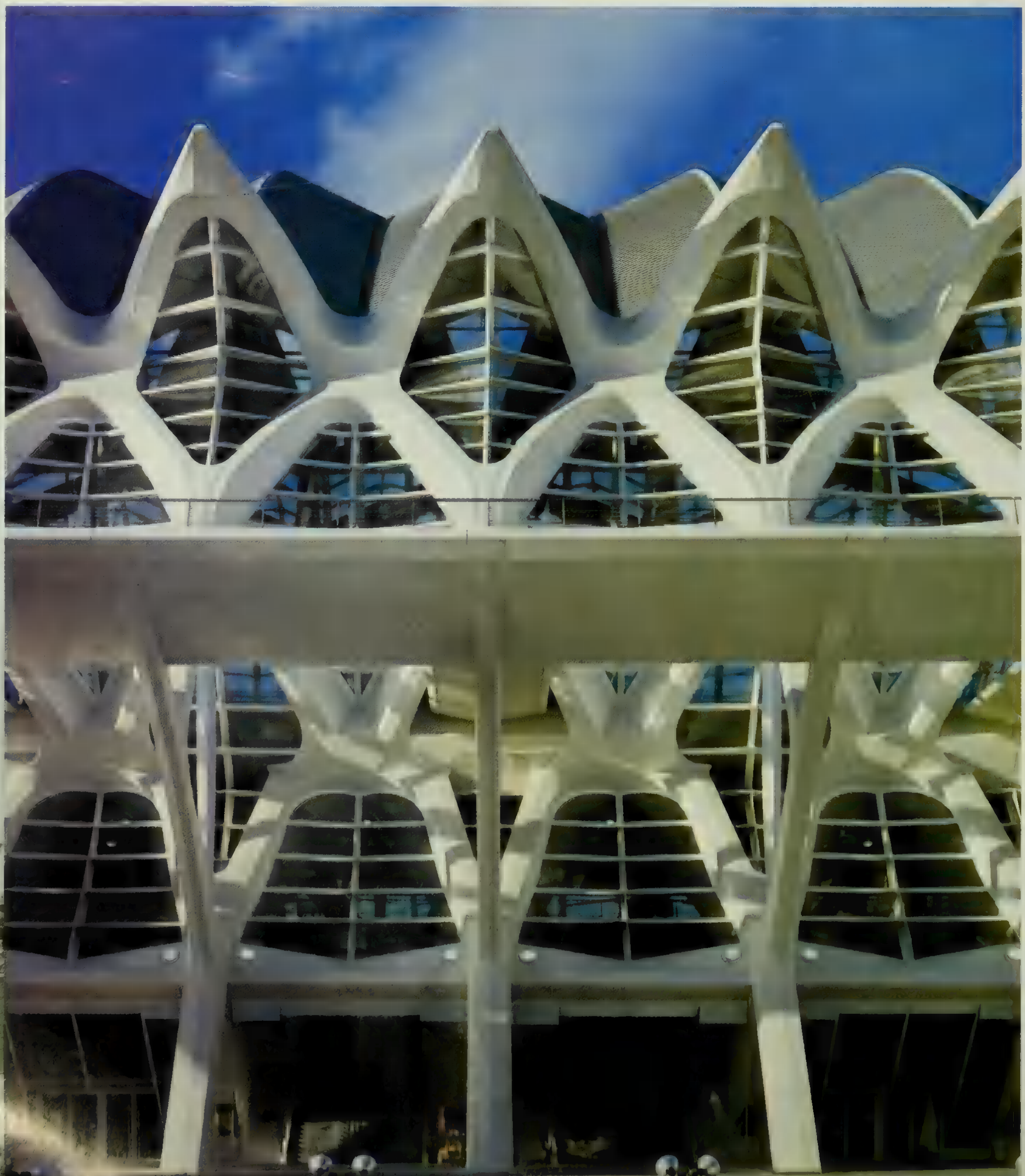
Accompanying our exclusive interview with the architect [page 70], we offer the following sampler of his work: a portfolio of projects new, old, and forthcoming.

THE VALENCIA CITY OF SCIENCE & Planetarium traces its roots back a decade to an initiative by the government of Valencia, Spain, to boost the city's cultural prominence with a new science museum complex. In 1991, Calatrava won a competition for a communications tower on the site, and was later awarded the commission to develop the entire complex, including a planetarium and science





museum, and eventually the Pala de las Artes, a performing arts ce ter with an opera house. In the fo of an eye, the planetarium (prece ing two pages) features a globe cradled in an elliptical pod with a kinetic slatted brise-soleil. Recalling the river that once flow on its site, the science museum (this page and opposite) is a long dinal building—790-foot-long—in the tradition of great 19th-centur exhibition pavilions. A glass-infill concrete framework on the south face evokes branching trees. The future Palacio de las Artes and opera house will anchor one end the complex's long axis.



THIS WAS BUILT IN JUST SIX DAYS.

Cephren®
can't promise
that kind of speed.
But we do promise
to change the way
you build the world.

You need to coordinate teams of architects, engineers, contractors and suppliers. And you need to procure goods and services from four corners of the world. Which is why you need a more efficient way to communicate and transact in real-time. The solution? Cephren's collaboration and e-commerce framework.

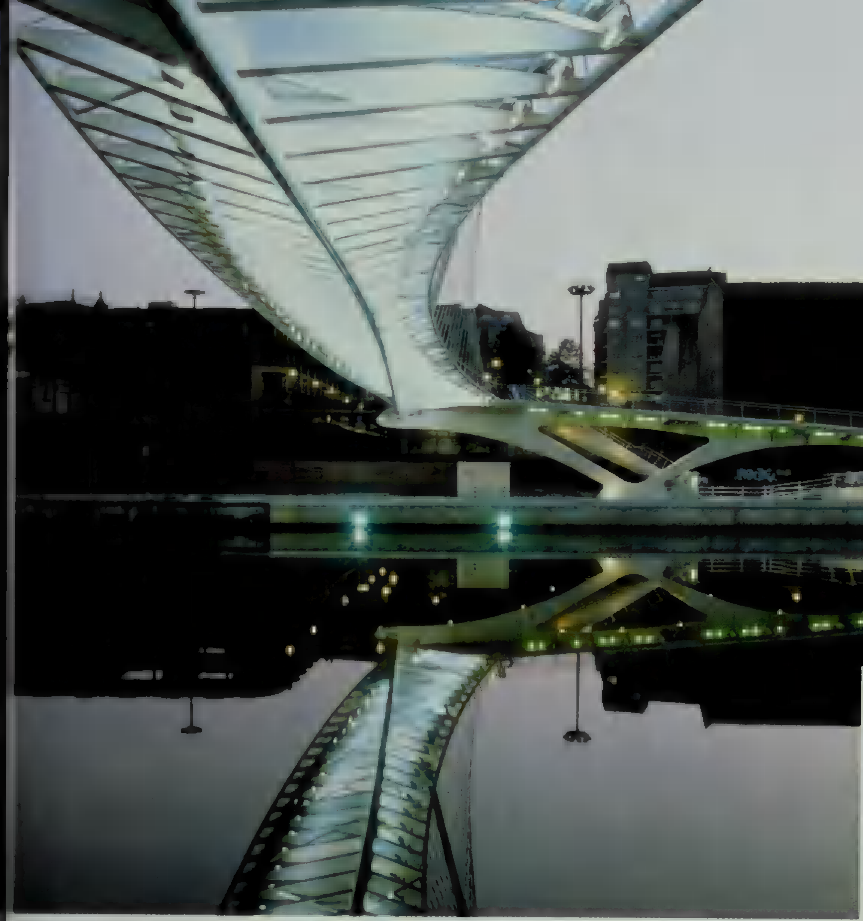
Just access our 100% Web-based, secure workspace from anywhere, using any browser, at anytime. And discover how easy it is to manage costs, mitigate risk and accelerate time-to-market.

Cephren has over 800 firms using its online network representing over $40 billion in construction value around the globe. Clients include The Bechtel Group, BSW International, Gensler, Global Design Alliance, HOK, WAT&G and Webcor Builders; charter E-Commerce customers include E-J Electric Installation Company, Fischbach & Moore Electric Inc., J.A. Penny, Liberty-WESCO, Mass Electric Construction Company, Midwest Mechanical of New Jersey, Turtle & Hughes and Watsco.

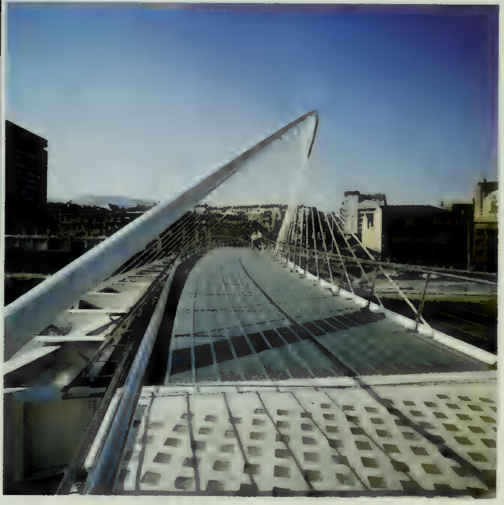
Visit www.cephren.com/ad or call 650-845-2000 to learn more about our products and services.

© Copyright 2000 Cephren, Inc. All rights reserved. Cephren and the Cephren logo are registered trademarks, and Change The Way You Build The World is a trademark of Cephren, Inc. in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders.

Cephren®
change the way you build the world™

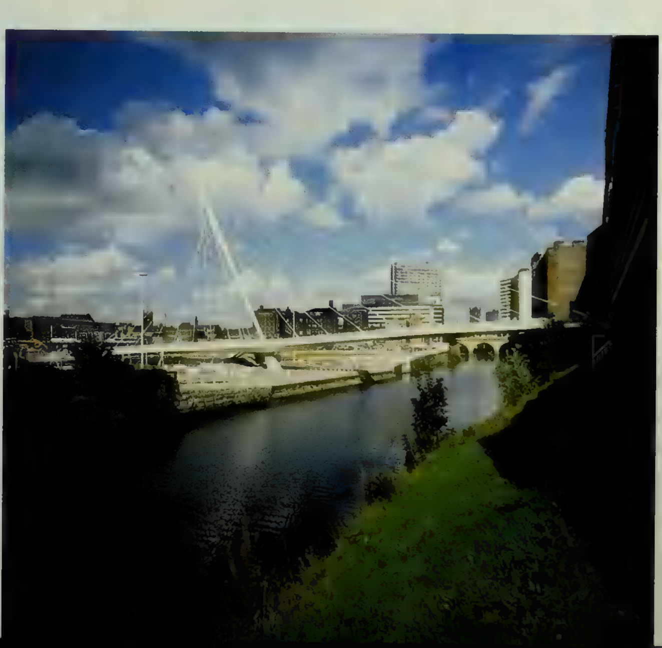


THE CAMPO-VOLANTIN BRIDGE, in Bilbao, Spain (1990–97), spanning 232 feet, acquires a visual dynamism from its inclined parabolic arch structure. Its curving path and translucent paving become especially dramatic when illuminated from below at night.

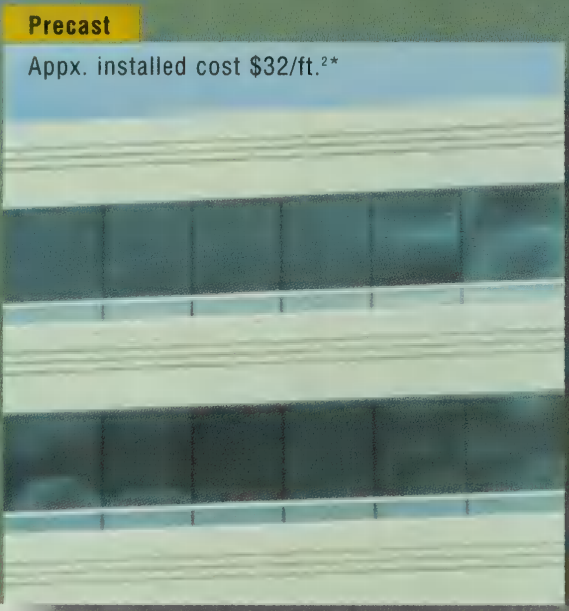


> **“WITH A BRIDGE,” SAYS CALATRAVA, “A SINGLE GESTURE CAN TRANSFORM AND ORDER NATURE.”**

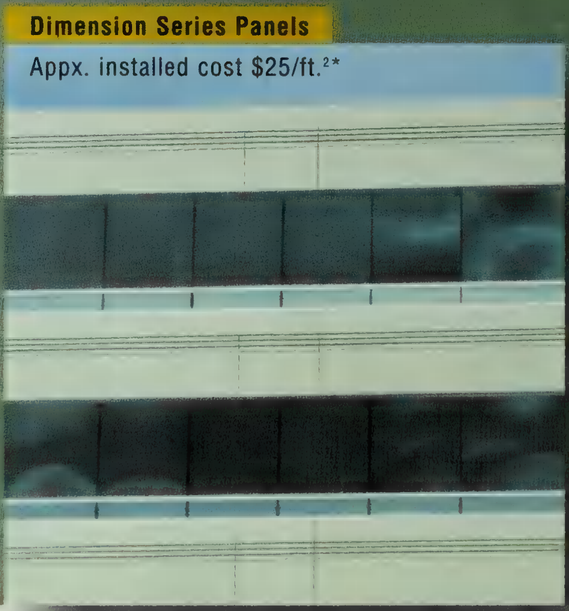
HE TRINITY FOOTBRIDGE in alford, England (1993–95), chieves extraordinary balance and quality of formal essence. A 135-oot-long pylon, inclined at a 0-degree angle, supports the span.



NOW, A COST ADVANTAGE THAT PRECAST CAN'T OFFER


Precast

Appx. installed cost $\$32/\text{ft.}^{2}$*


Dimension Series Panels

Appx. installed cost $\$25/\text{ft.}^{2}$*

New. Formawall® Dimension Series® architectural metal panels.

Variable thicknesses, profiles and reveals that make precast look flat. Dimension Series panels are different. Their one-piece composite construction means that exterior skin, insulation, vapor barrier and liner all go up in a single pass, so their installed cost absolutely flattens precast. The panels are attractive and weathertight, and they come in varying thicknesses, profiles and reveals, offering you exceptional design freedom at lower costs. Plus, they're available in the industry's widest choice of color and finish options to add another eye-catching element to your design. Don't cast your plans in concrete, start adding a new Dimension to your design. Contact CENTRIA today for a personal presentation. **Quit stonewalling. You've settled for precast long enough.**

DIMENSION SERIES
Product of the New Millennium
As selected by Architectural Record

CENTRIA

CENTRIA Architectural Systems

CIRCLE 40 ON INQUIRY CARD

1.800.752.0549

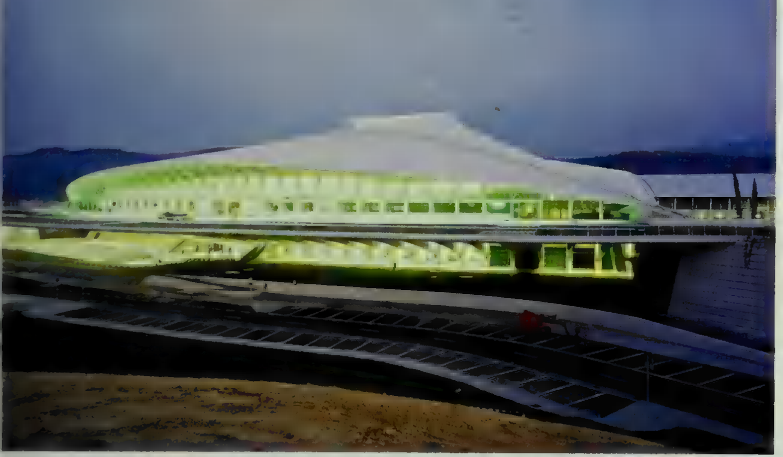
www.centria.com

*Based on average material and labor costs for complete curtainwall including supports.

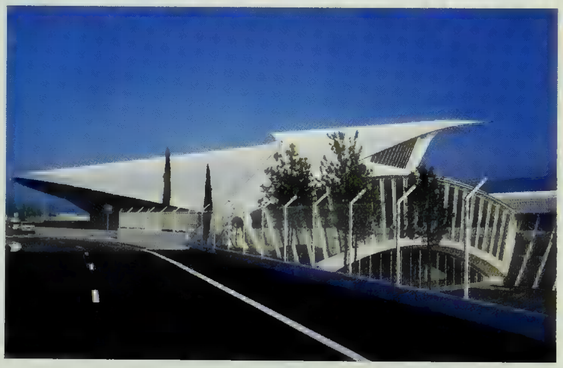
“WE MUST REDISCOVER THE BRIDGE,” SAYS CALATRAVA OF A FORM THAT DISTILLS THE ESSENCE OF HIS STRUCTURAL INVESTIGATIONS.

THE HOSPITAL BRIDGES (above) and Manrique Footbridge (below) of Murcia, Spain, (1993-99) span 177 feet across the Segura River. In the Hospital Bridges, a central pedestrian deck, is flanked by twin vehicular decks with an inclined-arch suspension system, powerfully strung like a pair of great harps.

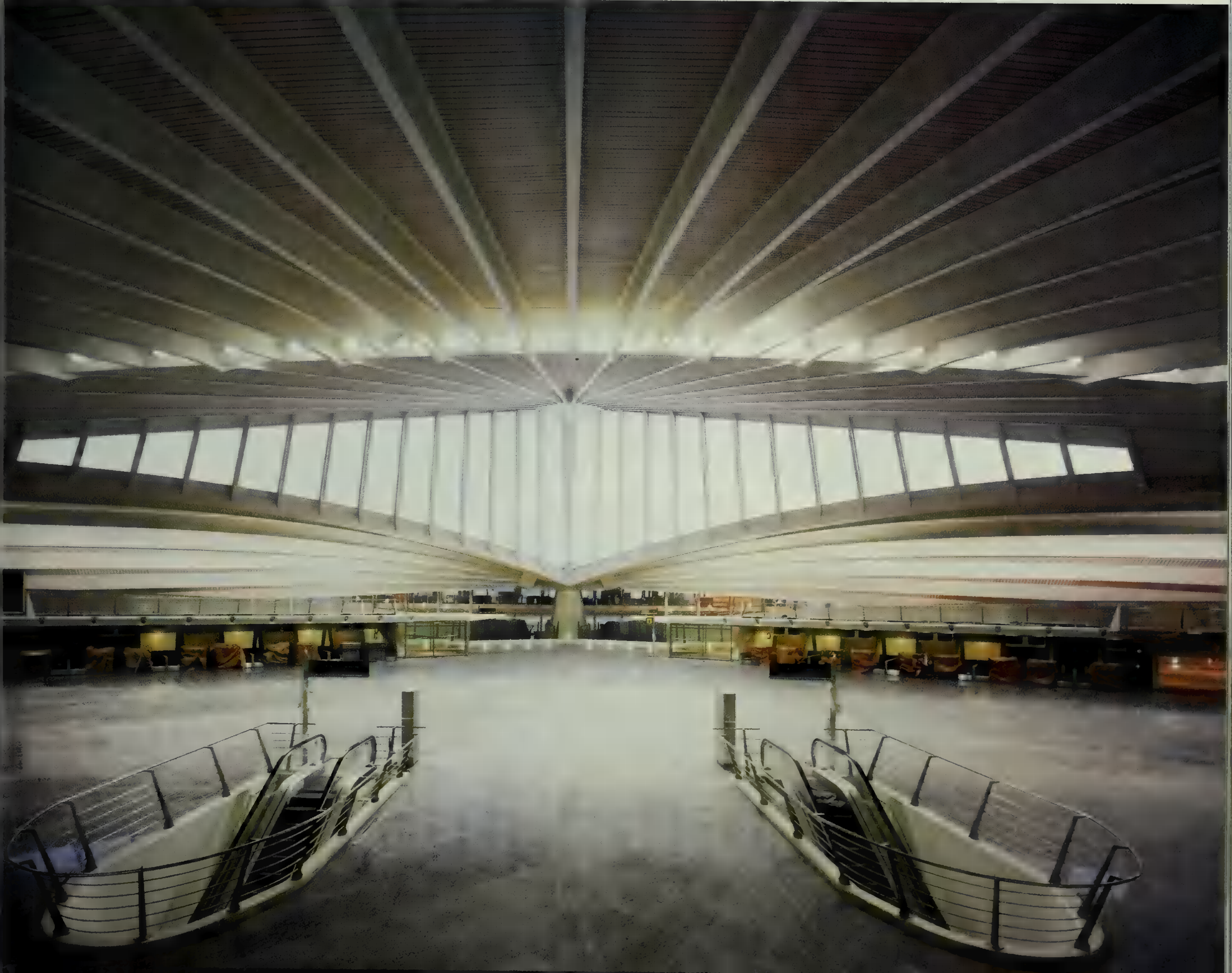
Perimeter
Overhead
Infloor
Open Space
Structured Cabling
"Hey, down here.
Every day you step on me...roll that chair over me.
Don't you realize how big I really am? I'm everywhere – in the walls, the ceiling, the floor. I'm part of this whole wire and cable infrastructure that shoots power, data, voice and video to every computer, telephone and pencil sharpener in this building. Those e-mails...those web pages... those frantic calls to that late-night pizza joint? That's us, babe. Point A to Point B. It's not as simple as you might think. And when you want to put some new high-tech doohickey in your office? You can thank my Interlink Activate™ inserts – they just pop in and out to adapt to any technology. Didn't know all that? No problem – we're cool.
But please...take it easy with that chair, will ya?"
WALKER® RC3 POKE-THRU
WIREMOLD®
www.wiremold.com
CIRCLE 41 ON INQUIRY CARD



THE SONDICA AIRPORT in Bilbao, Spain (1990–2000), draws on aerodynamic birdlike forms—as does Calatrava's Airport Station in Lyon, France, his Bajaras Airport in Madrid, and the late Eero Saarinen's TWA airline terminal in New York.



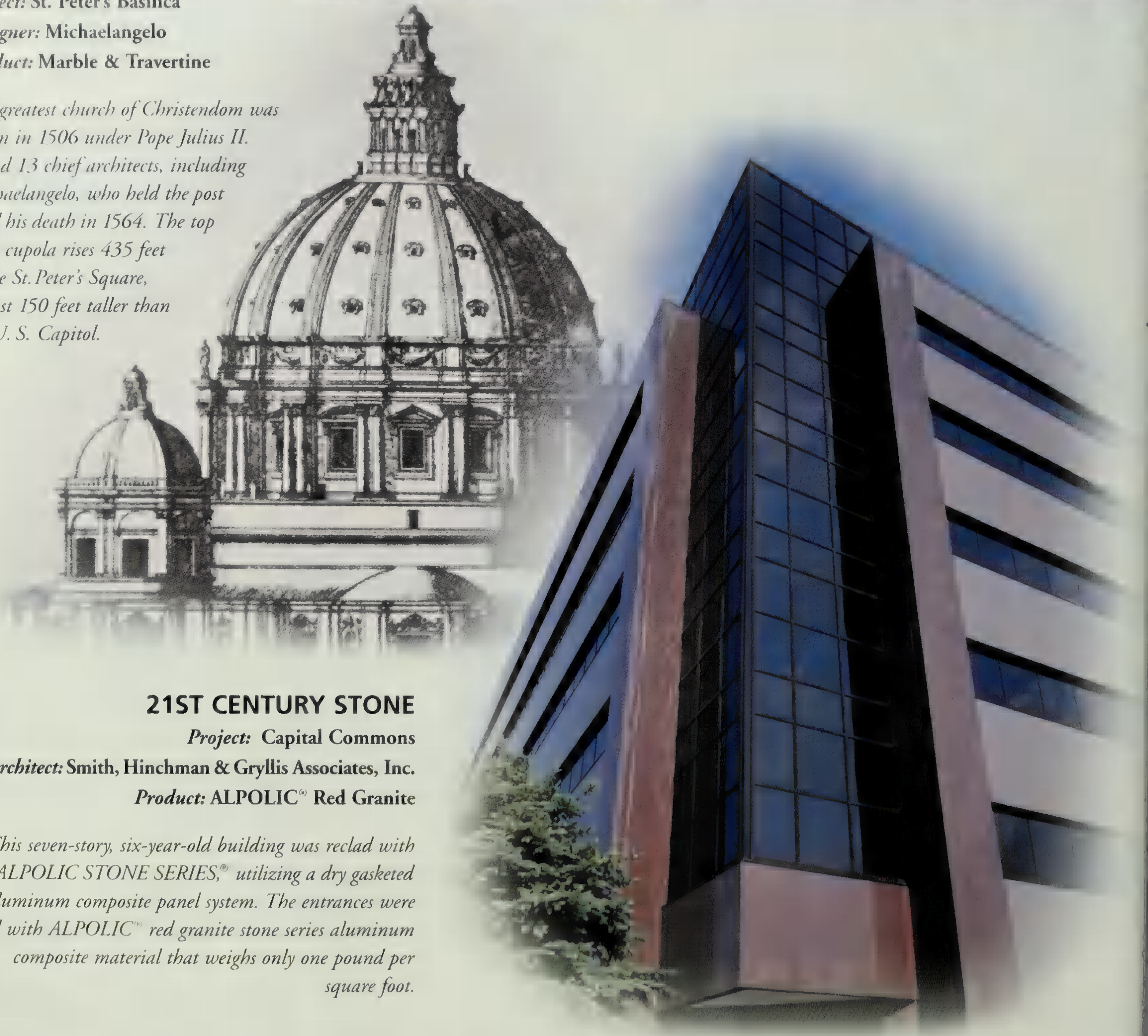
CALATRAVA'S PUBLIC WORKS CONSISTENTLY ASPIRE TO MAKE IMPACT AS CIVIC SYMBOLS.



YOU DON'T HAVE TO BE FAMO
TO CREATE A MASTERPIECE

16th CENTURY STONE
Project: St. Peter's Basilica
Designer: Michaelangelo
Product: Marble & Travertine

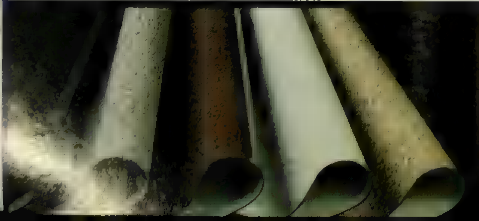
The greatest church of Christendom was begun in 1506 under Pope Julius II. It had 13 chief architects, including Michaelangelo, who held the post until his death in 1564. The top of its cupola rises 435 feet above St. Peter's Square, almost 150 feet taller than the U. S. Capitol.



21ST CENTURY STONE
Project: Capital Commons
Architect: Smith, Hinchman & Gryllis Associates, Inc.
Product: ALPOLIC® Red Granite

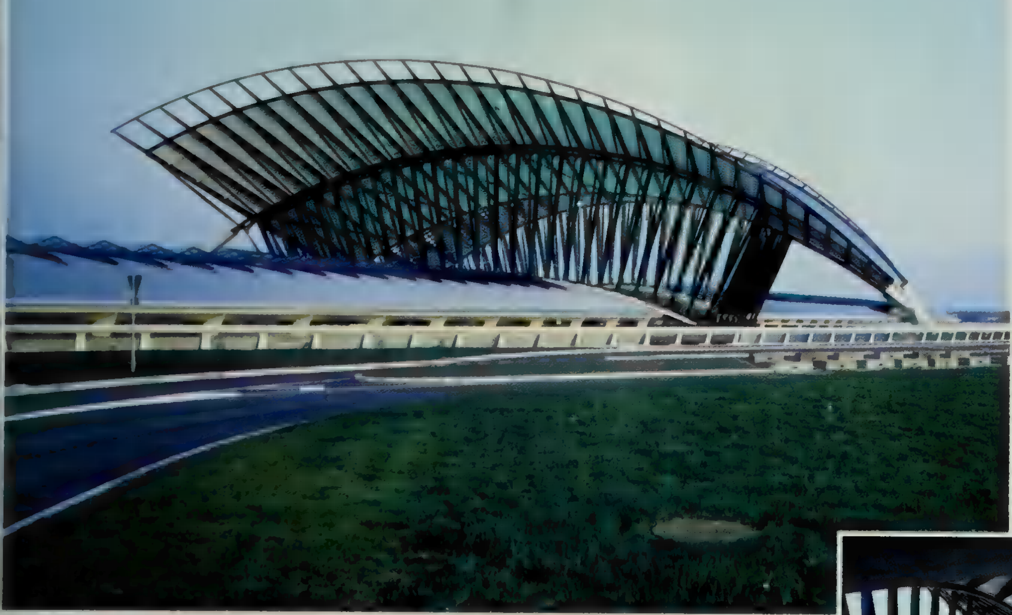
This seven-story, six-year-old building was reclad with ALPOLIC STONE SERIES,® utilizing a dry gasketed aluminum composite panel system. The entrances were clad with ALPOLIC® red granite stone series aluminum composite material that weighs only one pound per square foot.

Like Michaelangelo's creations in marble, we have taken aluminum composite materials to new heights. In fac
we're the leader in offering new and innovative products that can help you realize your visionary designs. ALPOLI
was the first to embrace PPG/MEGAFLON,® a high-performance fluorocarbon, as our primary paint finish. We we
the first to offer a virtually endless palette of colors limited only by a designer's vision. Now we've broadened o
line to offer you such unique products as our ALPOLIC STONE SERIES,® our ALPOLIC A-LOOK® reflective mirror su
faces and our ALPOLIC ISD® interior products that simulate wood and stone finishes. When you have a vision f
the 21st Century, create your masterpiece with ALPOLIC products.

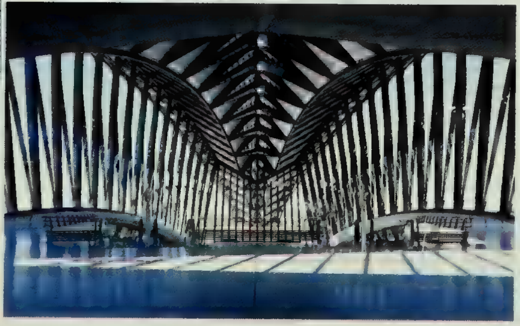


ALPOLIC®
Helping You Create Today's Masterpieces
For more information, call 1-800-422-7270
or email us at www.alpolic.com
©2000 Mitsubishi Chemical America, Inc

CIRCLE 42 ON INQUIRY CARD

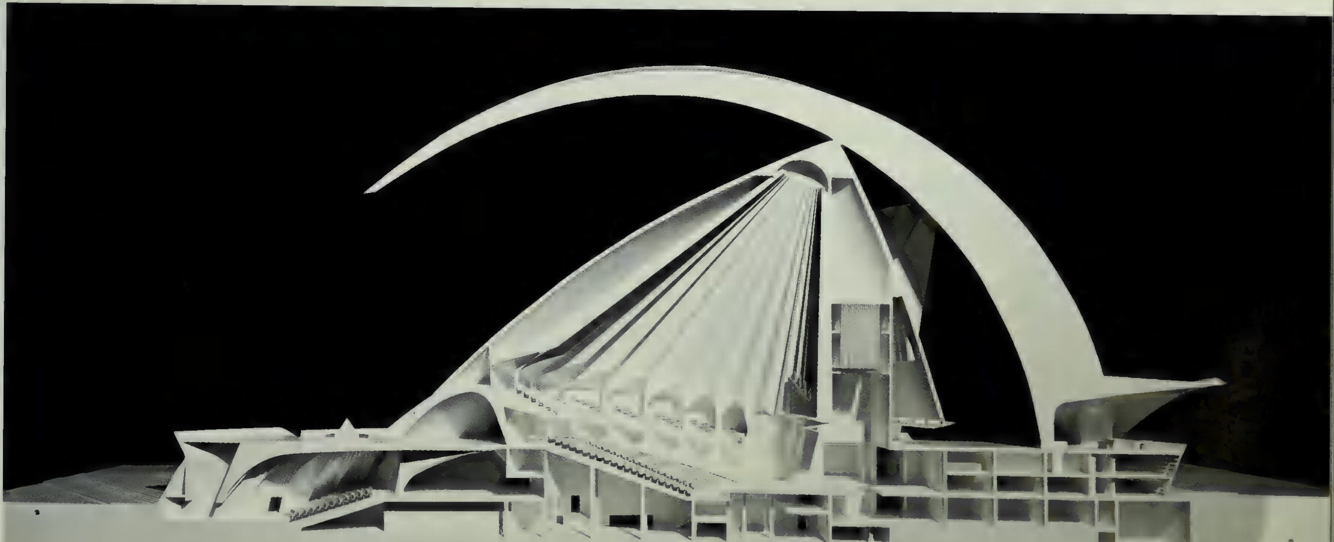


THE LYON-SATOLAS AIRPORT Station (1984–94)—abstractly like a bird poised for flight—is 60,000-square-foot competition-winning design that links France's high-speed train network with the Lyon Airport. The gracefully arcing roof (which actually weighs 1,300 tons) provides a symbolic gateway to the region.



CALATRAVA'S GRACEFULLY BALANCED FORMS OFTEN EVOKE SUCH BIOLOGICAL STRUCTURES AS RIBCAGES, VERTEBRAE, OR EYES AND FIGURES IN MOTION.

THE TENERIFE OPERA HOUSE, in the Canary Islands, is one of two Calatrava opera houses currently in the works. (The other, in the Palacio de las Artes, will anchor the long axis of Valencia's City of Science.)



The Pacific Lumber Company

Everybody...

It's true for people—and it's true for owls, murrelets and salmon, too.

When we design and build our homes, we have many choices; and those choices affect the future for us all. We want to choose materials that are renewable, recyclable, energy efficient and biodegradable. We prefer materials produced locally, rather than exporting our environmental burden to other regions. These are all important reasons why wood from our own forests is our favorite building material.

Birds, fish and other animals don't have nearly as many choices as we do. That's why those of us at The Pacific Lumber Company go out of our way to protect the forests and streams on our property. We work hard every day to make sure that wildlife can find a home in our woods and in our waterways.

For 130 years, The Pacific Lumber Company has harvested timber from our privately-owned lands. We grow, harvest and replant trees on a sustainable basis, and we continue to provide the highest quality redwood and Douglas fir lumber available. When you use our products, you can be assured that you are making a responsible choice for today's homes and tomorrow's forests.

needs a home.

PALCO

The Pacific Lumber Company

P.O. Box 565
Scotia, CA 95565-0565
Telephone: (707) 764-8888
www.PALCO.com
CIRCLE 43 ON INQUIRY CARD

CALATRAVA INTERVIEW *continued from page 72*

I have more than the paradigm of an architect; I have the paradigm of a painter, an example of a painter—Cézanne, who spent all his life just trying, he said, to make some little progress. I am doing little progressions. You understand what I mean. I like his personality very much. At the end of his life, he almost always painted outdoors, taking nature as the real model. And I apologize, not taking the example of an architect. Many architects have built like that, but I think Cézanne is so splendid. And so uncomprehended in his stance, just a few people understood his work, but [it was] so important for the next generation.

"IF WE CONSIDER ARCHITECTURE AN ART, THEN ENGINEERING IS ALSO ART."

AR: *You are both an architect and an engineer; it is surprising that you've been talking about your "research" when, in a sense, you mean your art. Art seems to be where these strands come together. How do you describe yourself?*
SC: I would like to emphasize that if you step back in history, you will see that architecture has been considered an art. If you study the history of art, [you will find] this pure understanding that architecture is an art. This is something that, for me, needs to be strongly emphasized.

Engineers and architects belong to the same [profession], but there is not a clear independence between the two.

So if we consider architecture an art, and engineering as part of, or a branch of, architecture, then engineering could ultimately be considered an art. But the most interesting thing is, I want to go even further.

AR: *You've discussed intuition. Here's a very rational question. Do you use the computer?*
SC: Myself, I don't use the computer. I draw everything by hand or I sketch.

AR: *You do use your hand to sketch and to draw. What's the relationship between your mental process and the physical act of drawing?*
SC: Ultimately, the problem of an idea is not only having the idea but finding the clarity to express this idea. . . .Even a poem needs to be written in simple words. So the sketch as the translation of the idea has, in my eyes, by itself a very high value.

When Matisse speaks about his drawing, sketches appear very intimate because sketches are usually done only between you and yourself. A sketch can clarify what has happened in your mind. So it is like a letter to yourself.

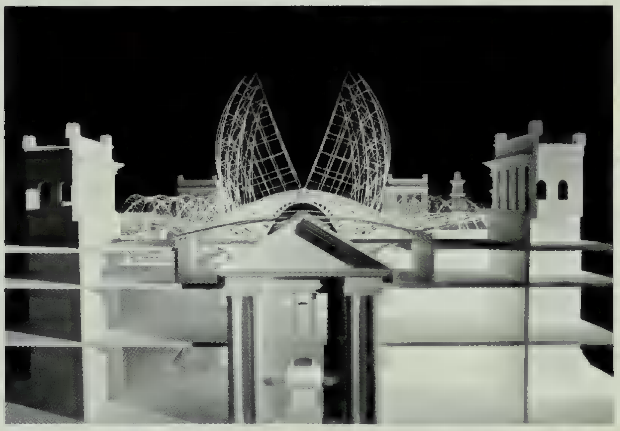
And I think this— the intimacy is very important. Sketches can become bigger or the sketches can become more detailed until you solve a joint, or you solve a connection, or you describe this or that.

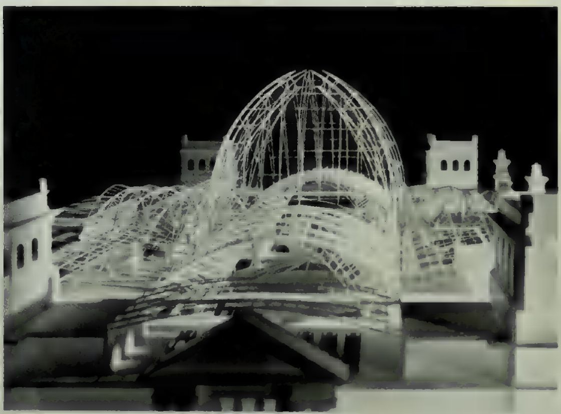
I want to give you a more contemporary example on sketching: there are two filmmakers, one is Fellini and the other Akido Kurasawa, and both used to do sketches of their shots—very beautiful drawings by Fellini or sketches for very particular scenes by Kurasawa, who was master of the camera, the movies.

I think they were trying, through the sketches, not only to show what they wanted, but also to show people working with them what they were envisioning. And on the other hand, [to] get an aesthetic feeling that goes beyond the power of the words. Because certain ideas are internal. His ideas and my ideas are internal, but at least looking at a common object, we both are getting an aesthetic vibration that is also not only a pure design, but more than that—also a message of emotion.

(continued on page 89)

AFTER THE FALL OF THE BERLIN WALL **and the decision to relocate the German government to Berlin, a 1992 competition was held for the Reichstag building's conversion. Three first prizes were awarded—including one to Calatrava. Unique aspects of his scheme, such as a filigreelike transparent dome, were adopted by other entrants in the second phase of the competition. (Only Calatrava's proposal had a clear dome with petal-like openable segments.) Ultimately, the commission was awarded to Sir Norman Foster.**





www.vectorworksarchitect.co
1-888-646-422

VectorWorks ARCHITECT

Delivers the promise of Architectural CAD

"VectorWorks ARCHITECT is a great program...I am currently getting re-trained in AutoCA Architectural Desktop Revision 2...and it just doesn't stack up to VectorWorks ARCHITECT

—Edward Koenig, Carmelhill Drafting Studio

Isn't it about time someone addressed the promise of CAD?
Introducing VectorWorks ARCHITECT

Engineered and built by professionals in your discipline, ARCHITECT delivers on the promise of architectural CAD. It does everything CAD was supposed to do but didn't quite. Truly a better way to design, ARCHITECT integrates Design, Production and Project Management into a system that delivers unparalleled productivity—all at a price even the smallest firm can afford.

INTEGRATION

- Complete integration of your 2D plans, 3D models, reports, schedules & client presentatio
- Scalable CAD standards make it easy to structure & manage documents

DESIGN

- Unprecedented tools for programming studies and analysis
- Thousands of "Intelligent" building Objects & 2D/3D architectural symbols
- State of the art Solar Animator

PRODUCTIVITY

- An easy system for archiving, placing, & managing notes
- Automatic creation of reports & schedules
- Project Management features including issue management, error & revision control, & workgroup referencing

Special Offer to Readers of *ARCHITECTURAL RECORD*

Save over $180 by purchasing VectorWorks ARCHITECT direct for $1395 or without photorealistic rendering for $1140. Includes FREE Tech Support and a 90-Day Money-Back Guarantee.
*Existing VectorWorks users call for upgrade pricing.

NEMETSCH
NORTH AMER
CIRCLE 44 ON INQUIRY

CALATRAVA INTERVIEW *continued from page 87*

AR: *What about your own work in relationship to this moment? How do you think it relates to the late 20th century?*

SC: We should look at [the question] not from my point of view versus the object, but [from the point of view of] those who have generated the object. I know, for example, the major part of my career is [dedicated to] public buildings.

Most of them are here in Europe. This shows you that, at the end of the 20th century, the public authority took a lot of responsibility as a promoter of architecture. Most of the work emerged from competitions. We have done 120 competitions, something like that. So it also shows how important the system of competitions is for this public authority promoting arts, and also for someone like me. So the fact of competing with other architects immediately contextualizes the architecture, because you are competing with other people who are offering things that are contemporary.

People who chose those projects very often look for the new idea. I am obsessed with the idea of getting just one or two steps forward, but, it doesn't [always] matter. Sometimes other people, when they judge, are looking for something completely new, you understand.

The fact that the buildings are public represents very much an ideological moment in which the public authorities take part in the consciousness, and the fact that [the projects] are chosen by competition shows you another particular [point of view]. Many of them are bridges—or they are stations. Or they are museums and music buildings. All of them are related to the city.

For example, I try very hard, to bring dignity . . . [to] forgotten buildings like bridges. I try very hard to do that. I think the 1950s and the '60s and the '70s have been very bad years for bridges, because they were all purely controlled by economics. And no major technical achievements, like the Golden Gate, and also no major formal achievements. They were just economics, economics, and economics. Giving 20th-century bridges a little bit of the dignity that existed before, this was an important goal.

You can say the same thing about a railway station. This coincides also with the moment in which high-speed [technology] changes the utility of the station.

[As for museums] . . . another word that was very common in the 20th century, especially at the end, is culture. The word *culture* comes from the Latin *cultus,* and *cultus* is a cult to the gods, in this case, a cult to the muses. But also the understanding of culture as more accessible part, so [we have] public museums.

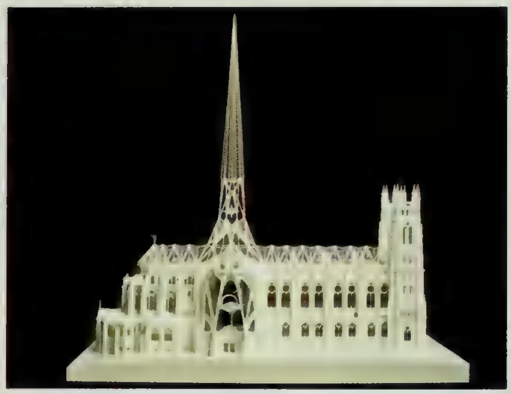
Another aspect of the city in the 20th century is the [urban] periphera. I'm not speaking of the suburban area where the wealthy people live in villas. Very often the peripheral areas can be terrible, very ugly. Bridges, concert halls, museums—those things deserve [good design] because they help to restructure these areas and to create new experiences.

I am very proud of this city-related aspect of my projects. Also that many of those projects have been related to mobility and transportation—airports, railway stations, bus stations, or bus shelters.

AR: *Your buildings are bold. Most of the buildings that we make lack this boldness—you make a statement when you make a building.*

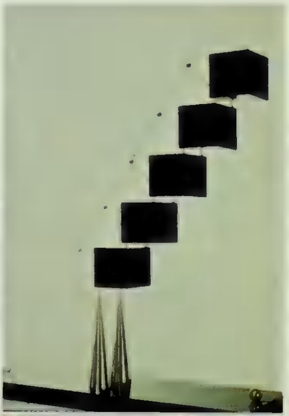
SC: Many of those [bold] buildings are in the [urban] periphera, in very poor neighborhoods. When we built a bridge in Barcelona, it was one of the first commissions I had—the first one for a bridge—and it was in really a very poor neighborhood. The object, which is strong, helped to regenerate the area in a way.

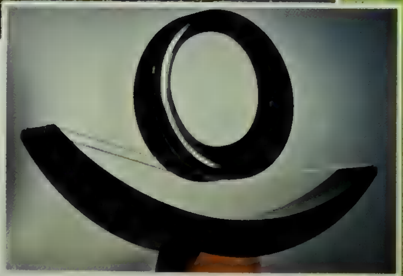
Why the strength of the elements in *(continued on page 258)*



The Cathedral of St. John the Divine in New York City originally began in 1892, but remains unfinished. In a 1991 invited competition, Calatrava proposed opening the roof toward the sky with a new glass-and-steel structure, housing a bio-shelter.

CALATRAVA DRAWS INSPIRATION from sculpture for the creation of many architectural ideas. Some consider structural conditions, while others examine folding surfaces and forms.





[illegible] registered
[illegible]
NONITE
OBSIDIAN
Gone on to bigger and better things.
PYRITE
QUARTZ

It's one of nature's most beautiful creations.

It may inspire one of yours. It's quartz crystal.

Now the heart of an amazing new material.

Come see for yourself at www.zodiaq.com.

ZODIAQ™
QUARTZ SURFACES
DUPONT®

CIRCLE 45 ON INQUIRY CARD

KLM

REM KOOLHAAS and OMA lead the Dutch onto new turf

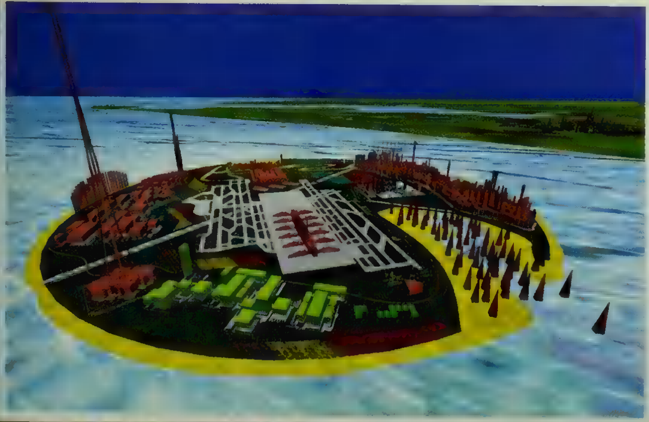
PHOTOGRAPHY: © COURTESY OMA

By Michael Speaks

Now that he has been named 23rd recipient of the prestigious Pritzker Architecture Prize, it will be even easier to misunderstand the genius of Rem Koolhaas and his Office for Metropolitan Architecture (OMA). Koolhaas is undeniably one the most important architectural figures in the world today. Anyone familiar with his Nexus Housing in Fukuoka, Japan (1991), the Kunsthal in Rotterdam (1992), the Educatorium in Utrecht (1997), or the houses in Holland and in France (such as the 1991 Villa Dall'Ava in Paris or the 1998 Maison à Bordeaux), cannot fail to recognize them as exceptional architecture. The Pritzker, however, is not bestowed on merely good or even great architects, but on those architects who display a kind of singular (primarily formal) artistic genius. It is somewhat ironic, then, that Koolhaas and his Office for Metropolitan Architecture have been recognized with the Pritzker at the very moment when he himself has drawn an even greater distinction between the practice of the "art of architecture" and another species of architecture pioneered by his office over the last 25 years.

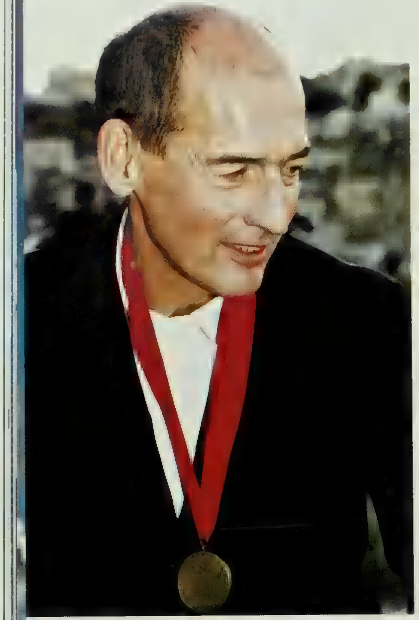
In response to globalization, Koolhaas graphically exclaims "YES" with signs for the yen, the Euro, and the U.S. dollar (above). OMA proposes that Amsterdam's Schiphol airport be built on an island (with a shopping mall) in the North Sea (left).

Koolhaas straddles a line drawn by his own hand between Pritzker-type architects of the recent past and a future generation of young Dutch architects whose ambitions have been defined largely by his buildings and ideas. Koolhaas and OMA have not only generated worldwide interest in architecture and urbanism in the Netherlands, they have provided the entire Dutch architectural world with a kind of intellectual and design endowment equal to the generous financial subsidies provided by the government and distributed through institutions like the Netherlands Architecture Institute. Aspiring architects in Holland are influenced by OMA's irreverent ideas, designs, and presentation style, even to the point of adopting Koolhaas' speech mannerisms and word choices. "Astonishing," "condition," and "ambition" find their way into practically every conversation about architecture and urbanism. It is fair to say that Koolhaas and OMA have given to contemporary architecture in the Netherlands an entirely new model for a



Michael Speaks is head of the Graduate Program and director of the Post-Graduate Metropolitan Research and Design Program at the Southern California Institute of Architecture (SCI-Arc), in Los Angeles.

Rem Koolhaas, the 2000 Pritzker Architecture Prize Laureate, accepting the prize at this year's ceremony, held May 29 in Jerusalem.



practice uniquely suited to respond to the social, political, economic and technological disruptions wrought by globalization.

Quantity over quality

In many ways, Koolhaas' first publication, *Delirious New York* (1978), presciently defined the agenda for this new practice. There, Koolhaas focused on an architecture less concerned with form and ideology than with the shaping forces, logic, and technologies of the metropolitan condition; an architecture of quantity, not quality, where density and scale provide opportunities that outstrip the enfeebled art of architecture; and on an architecture that exploits opportunities presented under conditions of constraint.

In an essay entitled "Bigness," from *S, M, L, XL* (1995) Koolhaas was even more explicit, arguing that the art of architecture is useless in a world more and more dominated by quantity. "Issues of composition, scale, proportion, detail," he wrote, "are now moot. The 'art' of architecture is useless in Bigness." Furthermore, architecture would remain important in this world scraped of conventional architecture, only by acknowledging its limitations and dependence on forces beyond its control.

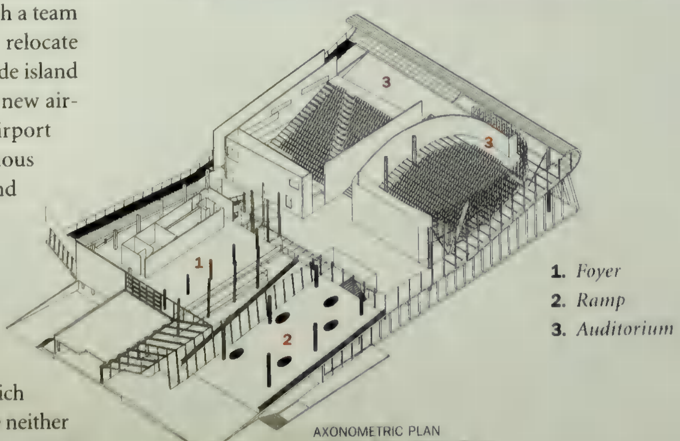
Now there is AMO

More recently, Koolhaas has distanced himself even further from the art of architecture with the startup of his new virtual office, AMO (OMA reversed) that defines itself as a new-economy architectural consultancy focusing on the potential of the unbuilt. So now there are two offices: OMA, which will continue to make buildings; and AMO, which will focus on projects like the one Koolhaas worked on in collaboration with a team of marketing, banking, transport, and other consultants to relocate Schiphol airport from the heart of the Netherlands to a man-made island in the North Sea. Their only design product was a logo for the new airport. As he remarked recently about the collaboration on this airport project, "Architecture is important, but no longer as an autonomous discipline, but as a way of thinking very much connected and aligned with other ways of thinking."

Junkspace as muse

Consistent with his dismissal of the art of architecture, Koolhaas has always expressed an interest in what he today calls "junkspace," the built detritus of contemporary life that makes up 99 percent of the metropolitan condition within which most of us reside. The term, like his use of "generic," is meant to be neither pejorative nor celebratory, but opportunistic; this amateurish appreciation

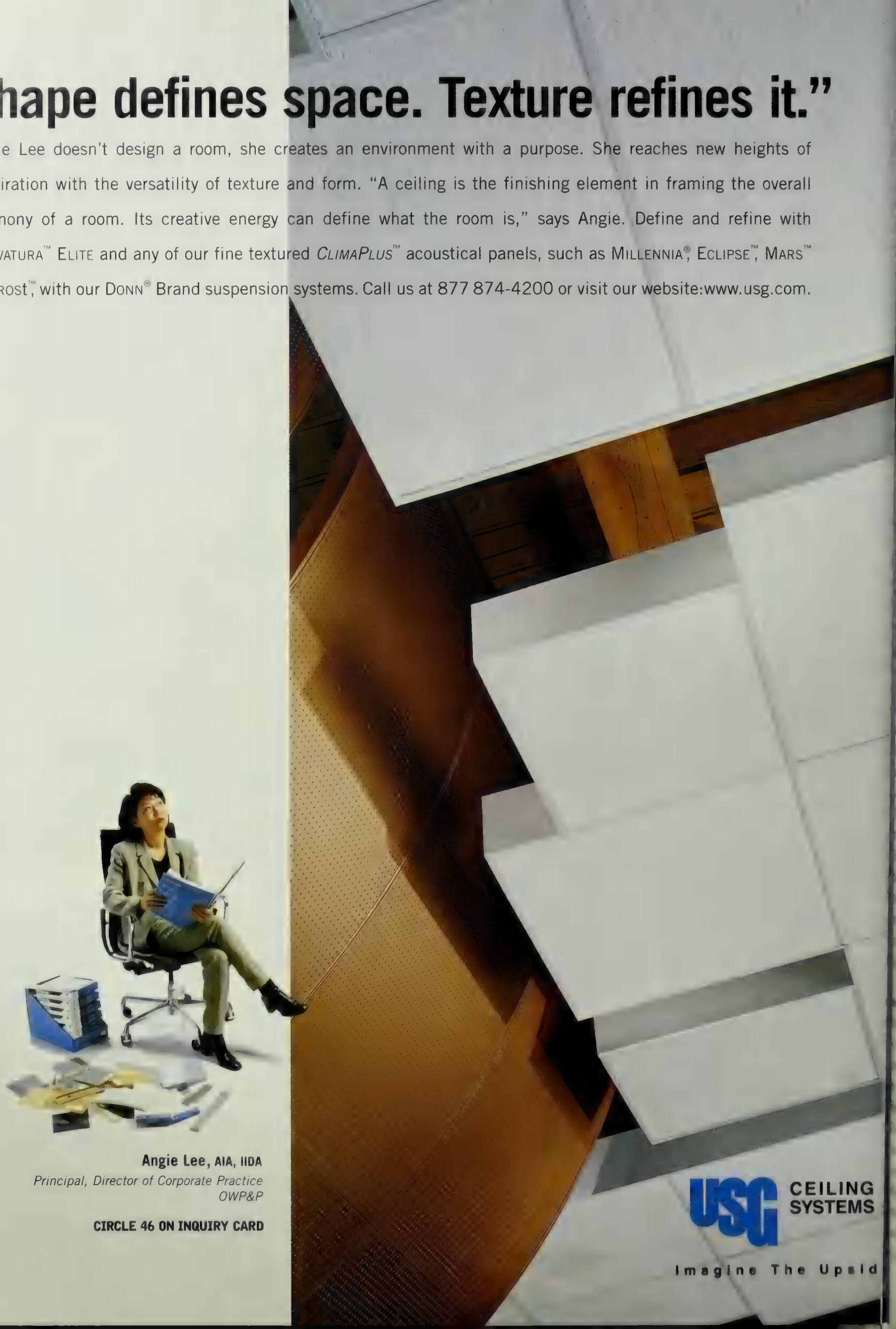
The Educatorium for Uithof University in Utrecht (1997), is a concrete-and-glass structure with two 400- and 500-seat auditoria. Executed as part of OMA's master plan for the campus, its ground floor accommodates a 900-seat cafeteria with a sloped ceiling and randomly placed columns, (right). The 35,000-square-foot building also contains three examination rooms and a roof garden.



AXONOMETRIC PLAN
OF MID-LEVEL ABOVE GRADE

"Shape defines space. Texture refines it."

Angie Lee doesn't design a room, she creates an environment with a purpose. She reaches new heights of inspiration with the versatility of texture and form. "A ceiling is the finishing element in framing the overall harmony of a room. Its creative energy can define what the room is," says Angie. Define and refine with Curvatura™ Elite and any of our fine textured *ClimaPlus*™ acoustical panels, such as Millennia®, Eclipse™, Mars™ or Frost™, with our Donn® Brand suspension systems. Call us at 877 874-4200 or visit our website:www.usg.com.



Angie Lee, AIA, IIDA
Principal, Director of Corporate Practice
OWP&P

CIRCLE 46 ON INQUIRY CARD

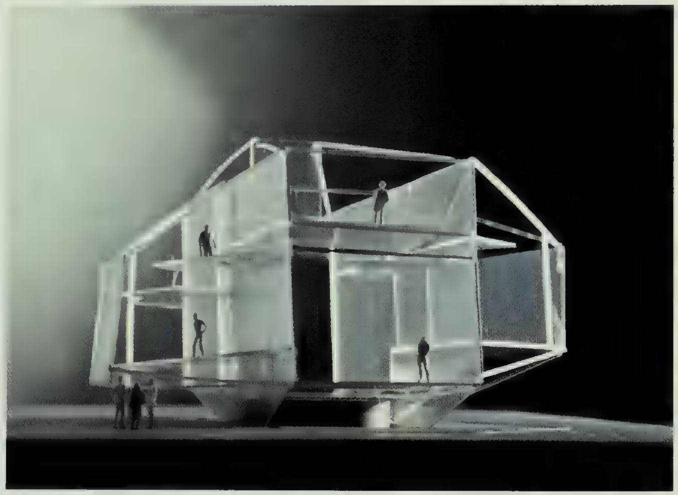
USG CEILING SYSTEMS

listinguishes Koolhaas' interest in the everyday 'rom the late 1960s valorization of Vegas pop and lane Jacobs–style urbanism.

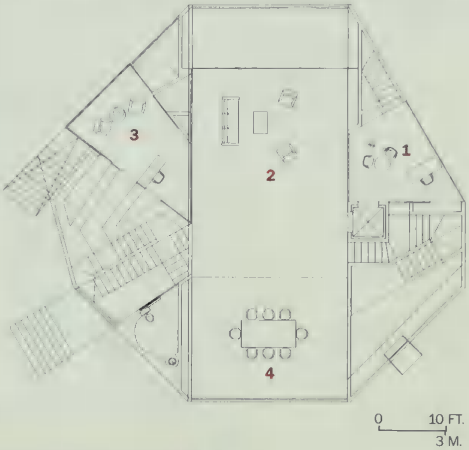
Koolhaas has an affinity for the most ›rutal and coarse materials and forms, from he orange safety netting of the villa in Paris, o the garish plastic toilet and bar facilities in he Congrexpo, (1994) in Lille, France, which)MA commissioned from the Dutch industrial designer Joep Van Lieshout. This ascination extends to the research Koolhaas is iow conducting through his "Project for the City" studio at Harvard, where he has been eaching since 1995. Research areas have ncluded the gargantuan urban development occurring in China's Pearl River Delta, the history and ideology of shopping, and currently, the ›rganized chaos that forms the infrastructure of Lagos, Nigeria. For Koolhaas, these areas are the future, not the past, of global modernization, and as such, should be studied to formulate design interventions lealing with Lagos-like conditions unfolding on the edges and the nner cores of Paris, Los Angeles, Phoenix, and Rotterdam.

Koolhaas has employed not only the materials of junkspace, but he ıas artfully adopted its banal sensibility in OMA designs and buildings. He lared, in his Bordeaux house, to make a piston/elevator and its disabled wner/occupant the centerpiece of an elegant dissertation on "living"; he ›roposed, in a competition entry for MoMA's expansion in New York, to nake shopping and its attendant means of conveyance, escalators, the raison l'être of the venerable art museum. Furthermore, he audaciously shoved the ›rogram of an enormous concert hall in 'orto, Portugal, with all its acoustical emands, into a house form previously designed for an OMA client ›bsessed with Y2K; and he made amping the design focus of the Kunsthal in Rotterdam, as well s two libraries proposed for university campus in aris. He also proposed a ›wn plan for Melun-Senart, rance, in which he suggested ıat the most significant intervention architecture could make was ot to make one. All this has still esulted is some of the most breathtaking architecture of the last 20 years.

In OMA's Y2K house (1999) for a Rotterdam client, spaces on two levels are carved out of the overall volume, with parking underneath. The form led to Casa di Musica, a competition-winning concert hall in Porta, Portugal, with a "shoebox" hall embedded in its mass.

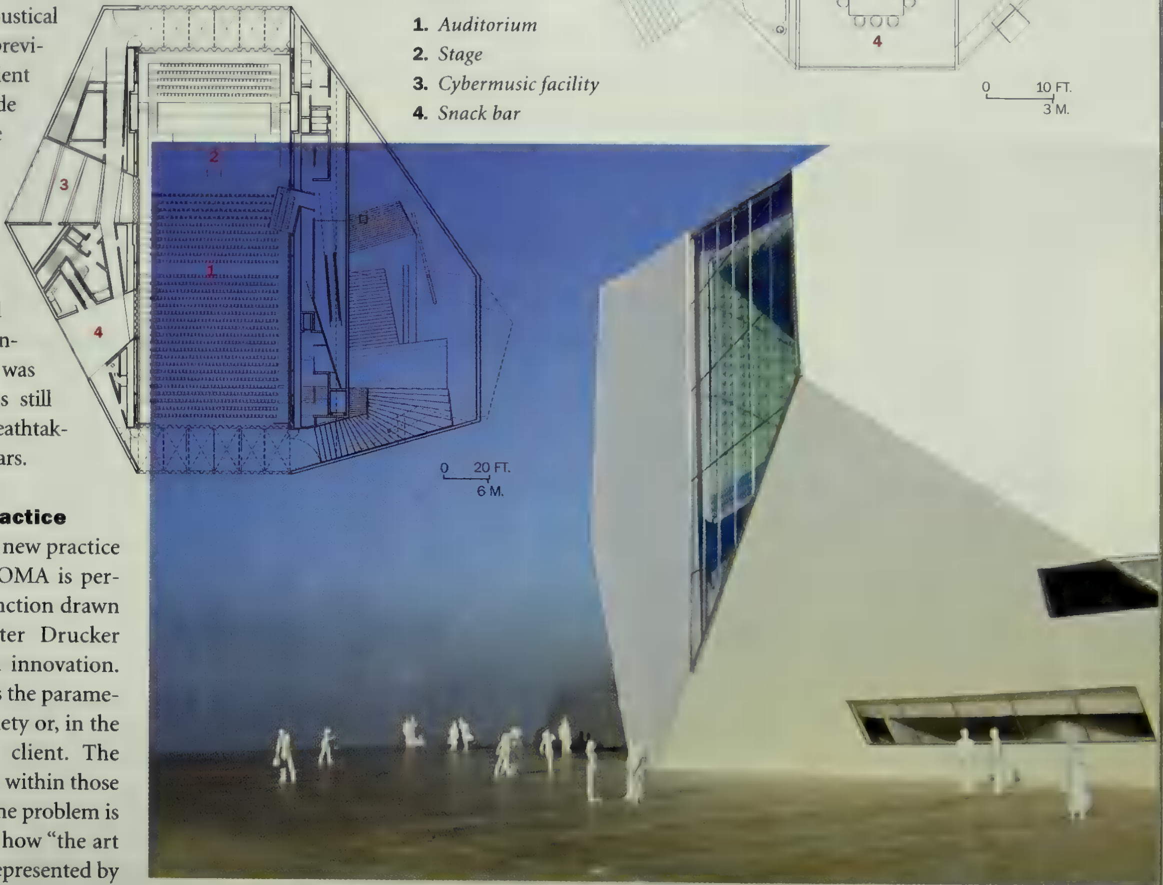


1. *Studio*
2. *Living room*
3. *Library/office*
4. *Dining room*



LEVEL + 4

1. *Auditorium*
2. *Stage*
3. *Cybermusic facility*
4. *Snack bar*



nnovation as a form of practice

ut the real significance of the new practice f architecture developed by OMA is perhaps best illustrated by a distinction drawn y management thinker Peter Drucker etween problem solving and innovation. roblem solving simply accepts the parameters of a problem given by society or, in the ase of architecture, by the client. The bject of design is then to work within those arameters until a solution to the problem is eached, a final design. This is how "the art f architecture," traditionally represented by

3D FORM SYNTHESIZER

From Sport City by Elisa Lui, Architectural Senior, University of California at Berkeley. Instructor: John Marx.

"Signifying a new age of dynamic movements, exciting advantages, and ultimate fun, the Sport Cit is a stage... Its form is derived from the shape of the human heart. Twisting, bending, and overlapping the two organic glass tubes in the center move like the rushing red blood cell in our arterioles...

auto•des•sys, Inc. is delighted to support the exploratory imagination of the novice designers that wil shape tomorrow's physical world.

3D solid and surface modeling software at its best, with photorealistic rendering, radiosity, and animatio

Visit us at www.formz.com to download a free demo. Call (614) 488-8838 or fax (614) 488-0848 for informatio

Mac

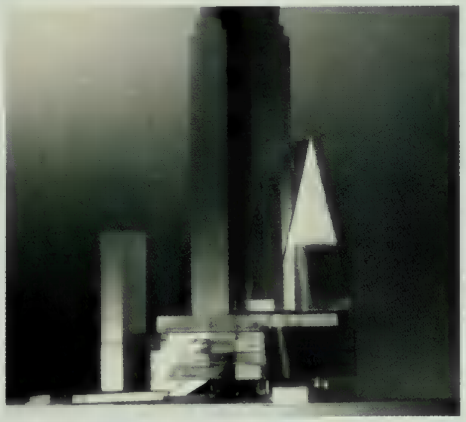
MICROSOFT® WINDOWS™ COMPATIBLE

autodessys

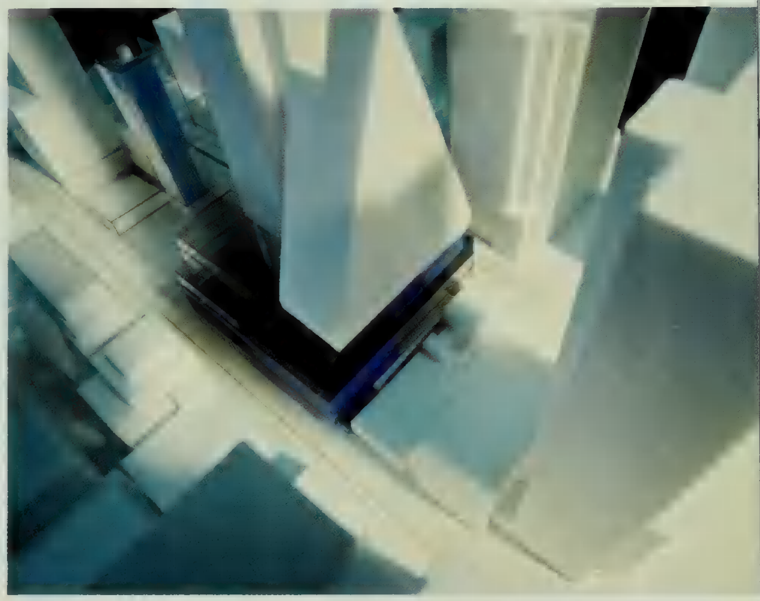
CIRCLE 47 ON INQUIRY CARD

ultural institutions such as the Pritzker Prize, and indeed by nuch of the architectural establishment, approaches the dramatic changes thrown up by the forces of globalization. nnovation, Drucker tells us, works by a different, more entrepreneurial logic where, by rigorous analysis, opportunities are liscovered that can be exploited and transformed into innovations. While problem solving works within a given paradigm o create new solutions to known problems, innovation risks rappling with the existent but unknown in order to discover pportunities for design solutions that could not have been redicted in advance.

This innovative approach is seen in many of OMA's ecent designs, such as their Prada stores in New York, San rancisco, and Los Angeles. OMA has discovered "branding" pportunities in the Prada design campaign, for example, that nly architects are able to exploit. In a world saturated by rands and logos, Koolhaas/OMA proposed to solidify Prada's identity ot by creating a unique, signature design that would represent Prada, but nstead by designing an exciting urban environment that creates a unique rada experience. Today, we live in a new "experience economy" where roducts are no longer differentiated by the quality of their design, nor by e level of service, but rather by the creation of unique experiences that urround the product. Rather than abandon this new territory to marketing or branding agencies, OMA has exploited the emergence of this ew economy to discover architectural opportunities.



OMA's submission for the Museum of Modern Art expansion in New York (1997) projected a triangular tower with the Sculpture Garden (right) depressed a level below grade. One of the few proposals that relocated the venerated garden, Koolhaas' scheme didn't win.



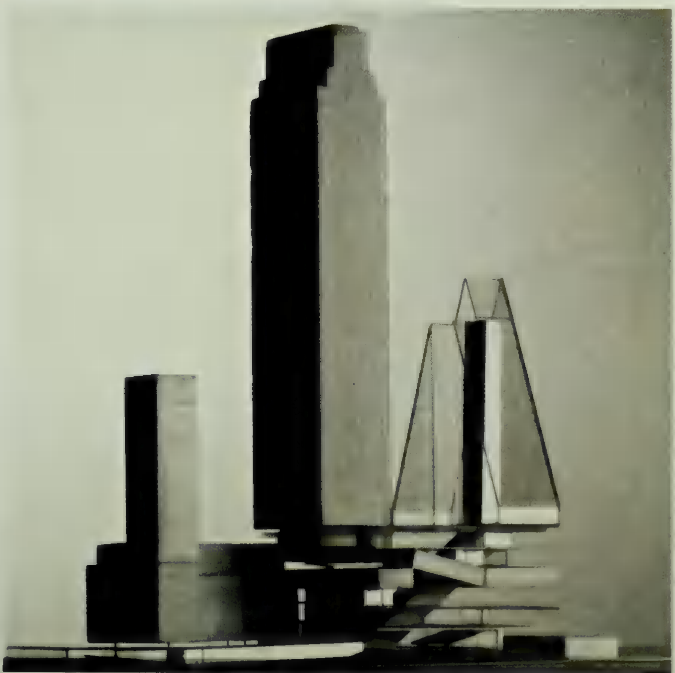
oung Dutch

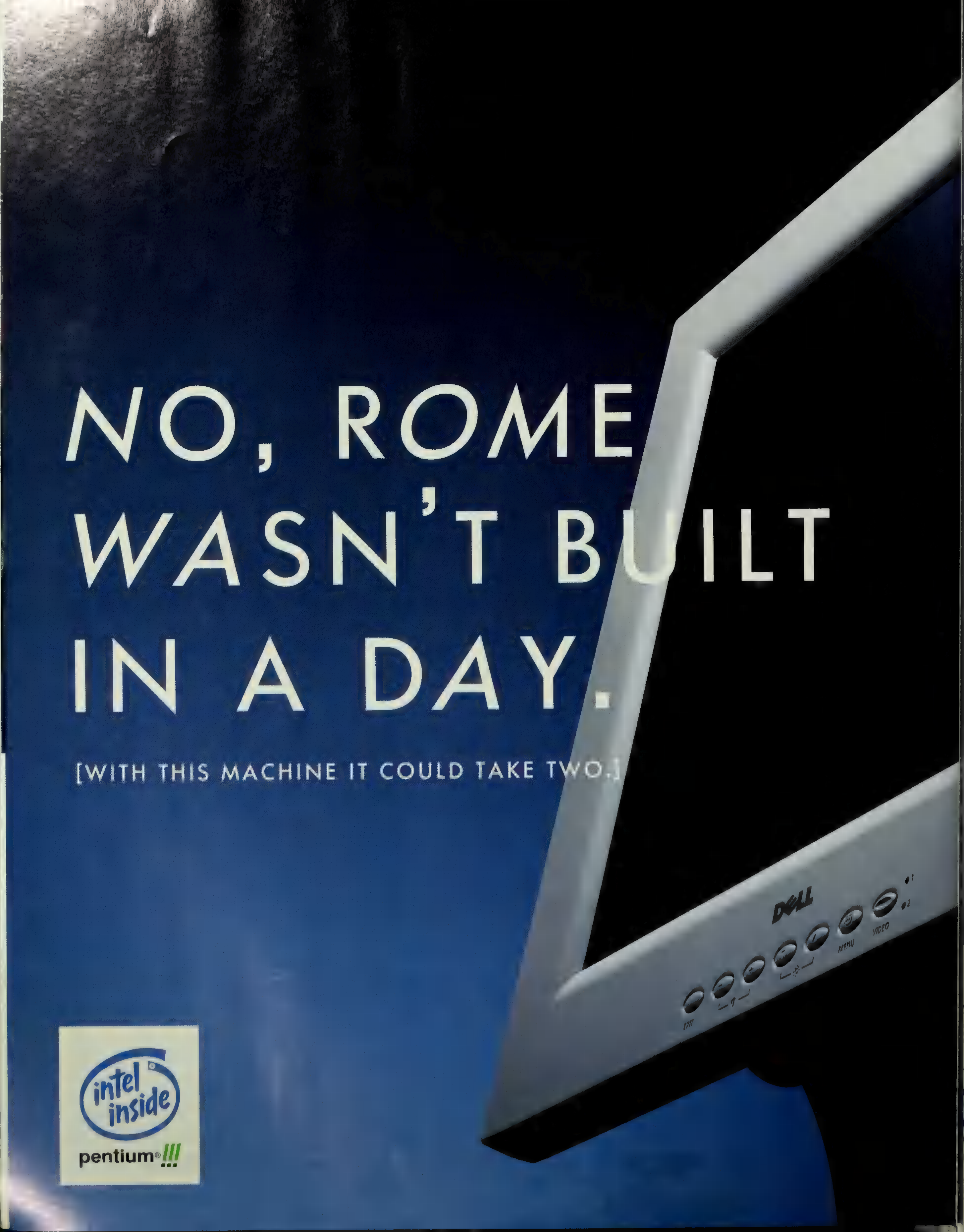
is clear that Koolhaas/OMA remains one of the most innovative offices n the world today. OMA innovates in order to innovate. Now a host of ntrepid young Dutch architects, many of whom once worked at OMA, as begun to dominate public lecture series, symposia, and magazine nd newspaper discussions of contemporary architecture and urbanism. he familiar jumble of letters and numbers that name their offices and ublications (MVRDV, UN Studio, West 8) has joined Koolhaas' own to ecome the lingua franca of design change among students in almost very school of architecture in the world. What is more, French, German, panese, and American varieties of "Dutch" architecture are beginning emerge around the world—some franchised versions of OMA, some, ke the young French office Périphérique, seemingly genetically predisposed to the new Dutch approach.

ODAY, THE CREATION OF UNIQUE XPERIENCES DIFFERENTIATE THE PRODUCT.

What is not clear is whether these "Dutch" architects, etherlandish or otherwise, will transform OMA's innovative practice, r whether they simply will use this practice as just a way to solve problems. Given the new standard that Koolhaas' selection has set for the ritzker Prize awards, it is sure that if they choose the path of mere problem solving, no "Dutch" architect will ever again be considered for this restigious award.

On the other hand, perhaps the selection of Koolhaas was itself ot as innovative as one might hope; perhaps it was not meant to award reativity or redefine the art of architecture, but to solve a problem: that e world's most important architectural thinker and one of its most nportant builders had yet to receive their approval. Maybe, though, it as a decision driven by the need to re-brand the Pritzker Prize itself, to ake it the marker of architectural innovation and not a reward for a job ell done. We will only have a short wait to find out. ■




NO, ROME WASN'T BUILT IN A DAY.
[WITH THIS MACHINE IT COULD TAKE TWO.]
DELL
EXIT
MENU
VIDEO
intel inside
pentium® III

Flat Panel Monitor Sold as an Upgrade.

Empires come and go. And, what once was possible in months, is now required in days, or even hours. Not to worry. Because here's a workstation that can leap killer deadlines faster than you can say "Centurion." The Dell™ Precision™ workstation's RDRAM technology and dual processor capability provides architects and engineers the bandwidth and refresh rate to perfect their designs quickly—even up to the last minute. And a full range of industry-leading graphics cards delivers impressive 2D and 3D performance that breathes digital life into your creations. Just think of what those early architectural visionaries might have accomplished if they had a workstation like this.

DELL™ WORKSTATIONS:

DELL™ PRECISION™ 220

- Intel® Pentium® III Processor at 667MHz (up to 933MHz)
- Dual Processor/RAID Capable
- 64MB RDRAM (up to 512MB)
- 10.2GB[5] EIDE HD (up to 36GB[5] 10K U160/M SCSI)
- 17" (16.0" vis) M781 Monitor
- NVIDIA TNT2 32MB M64 4X AGP Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- NEW Microsoft® Windows® 2000 Professional
- 3-Yr NBD On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$1729 E•VALUE CODE 89962-490717a

BUSINESS LEASE: $61/MO., 36 MOS.[11]

ASK ABOUT OUR AIA DISCOUNT.

DELL™ PRECISION™ 420

- Intel® Pentium® III Processor at 667MHz (up to 933MHz)
- Dual Processor/RAID Capable
- 128MB RDRAM (up to 1GB)
- 10.2GB[5] EIDE HD (up to 36GB[5] 10K U160/M SCSI)
- 17" (16.0" vis) M781 Monitor
- 32MB 4X AGP Matrox G400 Max Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- NEW Microsoft® Windows® 2000 Professional
- 3-Yr NBD On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$2379 E•VALUE CODE 89962-490723

BUSINESS LEASE: $83/MO., 36 MOS.[11]

ASK ABOUT OUR AIA DISCOUNT.

DELL™ PRECISION™ 620

- Intel® Pentium® III Xeon™ Processor at 800MHz (up to 933MHz)
- Dual Processor/RAID Capable
- 128MB ECC RDRAM (up to 2GB)
- 9GB[5] 10K U160/M SCSI HD (up to 36GB[5] 10K)
- 17" (16.0" vis) M781 Monitor
- 32MB 4X AGP Matrox G400 Max Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- NEW Microsoft® Windows® 2000 Professional
- 3-Yr NBD On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$3689 E•VALUE CODE 89962-490736

BUSINESS LEASE: $129/MO., 36 MOS.[11]

ASK ABOUT OUR AIA DISCOUNT.

SYSTEM UPGRADES

Graphics Cards:
- NEW 32MB 4X AGP NVIDIA TNT2 M64
- NEW 32MB 4X AGP Synergy Force
- NEW 64MB 4X AGP GLoria® II Pro (420 & 620 only)
- Intense3D Wildcat® 4110 Pro (420 & 620 only)
- NEW IEEE 1394 Adapter Card

Monitors:
- 17" (16.0" vis) P780 FD Trinitron® Monitor
- 19" (17.9" vis) P991 FD Trinitron® Monitor
- 21" (19.8" vis) P1110 FD Trinitron® Monitor
- 15" (15.0" vis) FP1501 Flat Panel Monitor

Operating Systems Options:
- NEW Microsoft® Windows® 2000 Professional
- Red Hat® Linux™ (420 & 620 only)

GET EXACTLY WHAT YOUR BUSINESS IS LOOKING FOR. | **800.626.9530** | WWW.DELL.COM

USE THE POWER OF THE E•VALUE CODE. Match our latest technology with our latest prices. Enter the E•VALUE code online or give it to your sales rep over the phone. www.dell.com/evalue

Dell recommends Windows 2000 Professional for business.

Call: M-F 7a-9p | Sat 10a-6p | Sun 12p-5p CT | Canada: 800-839-0148 | Mexico: 001-877-269-3379 | GSA Contract #GS-35F-4076D

Prices, specifications, and availability may change without notice. Taxes and shipping charges extra, and vary. Cannot be combined with other offers or discounts. U.S. only. [1]For a copy of our Guarantees or Limited Warranties, write Dell USA L.P., Attn: Warranties, One Dell Way, Round Rock, Texas 78682. [3]Service may be provided by third party. Availability varies. Technician will be dispatched, if necessary, following phone-based troubleshooting. [5]For hard drives, GB means 1 billion bytes; accessible capacity varies with operating environment. [11]Business leasing arranged by Dell Financial Services L.P., an independent entity, to qualified customers. Lease payments based on 36-month 10% purchase option lease and do not include taxes, fees and shipping charges. Subject to credit approval and availability. Lease terms and pricing subject to change without notice. Intel, the Intel Inside logo, and Pentium are registered trademarks and Intel SpeedStep, Pentium III Xeon, and Celeron are trademarks of Intel Corporation. MS, Microsoft, BackOffice, IntelliMouse, Windows NT, and Windows are registered trademarks of Microsoft Corporation. 3Com is a registered trademark and Fast EtherLink is a trademark of 3Com Corporation. HP and DeskJet are registered trademarks and OpenView is a trademark of Hewlett-Packard Corporation. Trinitron is a registered trademark of Sony Corporation.

©2000 Dell Computer Corporation. All rights reserved.

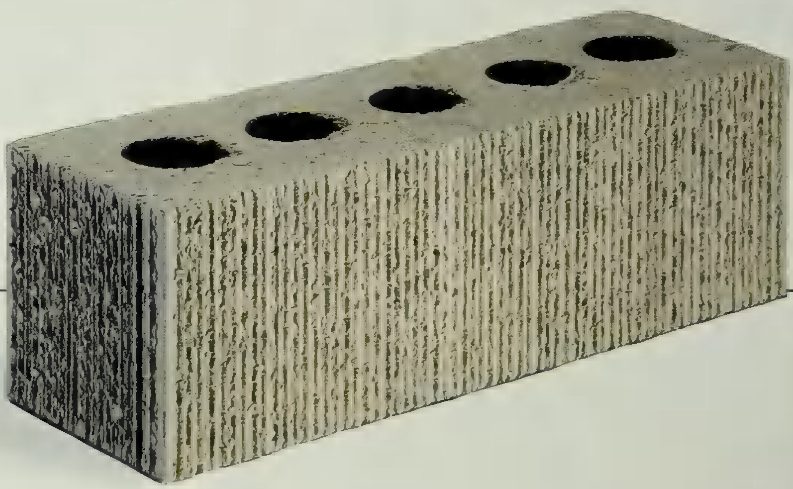
Sixty second guide to Belden Brick:

COLORS

Belden Brick is made in over 116 colors that include 2 choices in black, 28 browns, 7 tans, 8 buffs, 3 creams, 18 grays, 16 pinks, 26 reds, and 8 whites.

In addition, it is made in 12 different textures, although not all our brick is made in the same range of textures.

Belden also offers a choice of extruded brick or molded brick (with the character of hand-made brick.) Each category includes a wide range of colors and textures providing more than adequate design latitude.



SIZES

Belden Brick is predominantly made in thirteen different sizes, representing the spectrum of Belden Brick colors and textures. Your design opportunities are broadened by the availability of virtually every Belden Brick color choice as pavers.

SHAPES

We've made hundreds of different shapes to provide special structure details, and a week seldom passes without our custom-making a new special shape to meet individual design requirements. If you need an "impossible" special shape to complement the brick structure you're planning, call Belden. We've seen the impossible become reality.

CIRCLE 48 ON INQUIRY CARD

BELDEN

THE BELDEN BRICK COMPA

(330) 456-0031
An ISO 9002 Registered Compa
Canton, Ohio 44701-0910

1976

LCN 4110H-Cush closers were installed in the new Seattle King Dome.

1999

A field check confirms that the 23 year old LCN closers have surpassed 10 million cycles and are still going strong.

2000

The King Dome is demolished. The salvaged closers have the guts to go a few more million cycles.

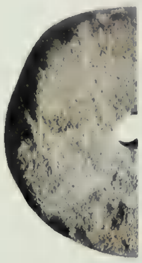
WHEN LIFE CYCLE COSTING
IS IMPORTANT,
NOTHING DELIVERS
LIKE AN LCN.

800-526-2400
www.lcnclosers.com

LCN

IR Security & Safety

CIRCLE 86 ON INQUIRY CARD



Half of a great idea...
is just that

MERIDIAN PROJECT SYSTEMS DELIVERS

Meridian Project Systems offers the AEC industry's only complete project management solution.

Prolog has long been known to be the best project management solution and it just got better! Announcing the Meridian Project Pack v6 running on Microsoft SQL Server 7.

The Meridian Project Pack includes:

- **Prolog Website**–Collaboration application designed for the project team.
- **Prolog Manager**–Power application designed for project managers.
- **Prolog Executive**–Data mining application for executives.
- **Prolog Pocket**–Data collection application designed for the field.

And the power of Prolog is now available as an internet hosted solution at ProjectTalk.com

We don't know why anyone would settle for less.

ProjectTalk.com
where the project team meets

Meridian Project Pack is available by subscription ■ ProjectTalk.com

MERIDIAN PROJECT PACK
Powered by Prolog™

Meridian PROJECT SYSTEMS
For information call (800) 850-2660
or e-mail sales@mps.com
www.mps.com
www.projecttalk.com

Microsoft Certified Solution Provider

©2000 Meridian Project Systems, Inc. All rights reserved

CIRCLE 50 ON INQUIRY CARD

New architecture of extraordinary creativity is bursting forth in Spain and Holland

PHOTOGRAPHY: © EDUARDO SÁNCHEZ & ÁNGEL LUIS BALTANÁS (INSTITUTO HISPANO-LUSO, TOP); GERARD HADDERS (WOZOCO HOUSING PROJECT, BOTTOM)

Why did we choose these two countries to showcase in July, and why do we apply such seemingly arbitrary adjectives as "hot" and "cool" to the architecture of two disparate European nations? Spain tends to be the hotter, climatically; Holland, cool, yet the architecture of each country could be described by both familiar adjectives—depending on how you couch the phrase. Whose architecture is hotter than that of the Netherlands in AD 2000, the year of Rem? Contemporary Spanish architecture, for all the Spanish brio, seems to revel in a certain Modernist formalism.

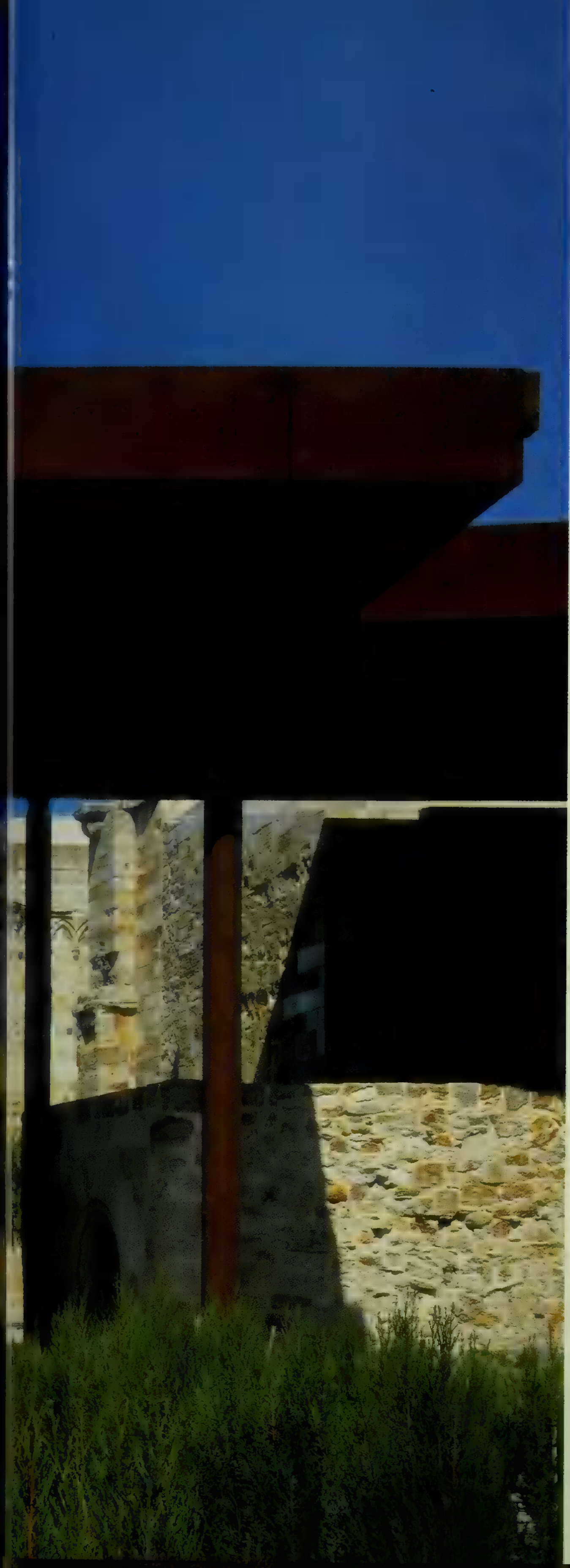
Spain and Holland show us that Modernism with a capital "M" is alive and well in Europe. Though their approaches vary, both nations employ contemporary architecture as signals of cultural and economic health. In addition to the masters, such as Moneo, Calatrava, and Koolhaas, a new generation of architects in each country is bending, even changing the rules of the game. Both groups are represented here and deserve attention.

How do they differ? To oversimplify, Dutch architecture is more concerned with urban planning, ecological matters, and mutability. A fierce intellectualism, the school of Kool, is being plugged into the Web. In Spain, architecture tends to be more concerned with the plastic, formal, and the material. Light reigns. The architecture can be gloriously tactile, even sensuous.

Unlike the bulk of current work in the U.S., where, with certain spectacular exceptions, client expectations and market forces often compromise for the mundane, European architecture is riding high. Spain and Holland are not alone in producing architecture of quality and creativity—visit Germany, Switzerland, or Britain and find imagination channeled into buildings. We celebrate the continent's architectural achievements at a fertile moment by presenting two exemplars, both hot and cool. *Robert Ivy, FAIA*

Manuel de las **Casas** marries a Gothic convent with modern structures to create the **KING ALFONSO HENRIQUES INSTITUTE** in Zamora

The Institute is located on the banks of the Duero River (opposite), where it passes through Zamora en route to Portugal. A Z-shaped building containing a library, classrooms, and dormitories snakes through the landscape to create a series of gardens and outdoor rooms.



By David Cohn

Manuel de las Casas, who turns 60 this year, belongs to the generation of Madrid architects who helped forge the architectural image of a modern, democratic Spain in the decades following the death of Franco in 1975. A contemporary of Madrid colleagues Rafael Moneo and Juan Navarro Baldeweg, though perhaps less well known abroad, he first won wide recognition for innovative public housing, such as the Palomeras blocks, the sculpturally modeled redbrick towers built in the Vallecas district of Madrid in 1979–86. In his 1992 Department of Agriculture for the regional government of Castilla-La Mancha, he inserted a contemporary office building in the heart of old Toledo, arranging the new construction around a series of narrow patios in harmony with the character of the historic setting. Like Oriol Bohigas in Barcelona, De las Casas also played a key role in promoting quality architecture at a national level during the 1980s. As a top administrator in the Ministries of Culture and Public Works, he commissioned many of Spain's best architects for important public buildings and spearheaded restoration programs for endangered historic monuments. He currently holds a Chair in Design at the Madrid School of Architecture, and received Spain's National Architecture Prize in 1999.

De las Casas drew on his experience in both historic preservation and contemporary design in his competition-winning project of 1992 for the King Alfonso Henriques Institute of Spanish-Portuguese Studies. The institute is situated amid the ruins of a 16th-century Gothic monastery on the banks of the Duero River in Zamora, an ancient provincial capital not far from the Portuguese border. It is jointly sponsored by the Spanish and Portuguese governments as a scholarly retreat and conference center for cultural interchange. A sister institution, housed in a building designed by Álvaro Siza, will soon open downriver from Zamora in the Portuguese city of Porto.

With its dormitories, refectory, and spaces for quiet study and meetings, the program for the institute had much in common with that of a medieval monastery, although little remained of the original Franciscan monastery on the site except the imposing roofless ruin of its apse. De las Casas proposed a building that would maintain this relationship, preserving the suggestive beauty of the ruins and drawing out the fragile but evocative memories of monastic life they retained.

David Cohn is RECORD*'s Madrid-based correspondent and is the author of* Young Spanish Architects *(Birkhäuser, 2000).*

Project: *Instituto Hispano-Luso "Rei Alfonso Henriques" rehabilitation of the Convent of San Francisco, Zamora, Spain*

Architect: *Manuel de las Casas, principal; Blanca Lleó, Leandro Iglesias, Antonio de las Casas (structure); Juan Carpio (installations); Felicidad Rodríguez (plastics); M. Alberola, J. Blanco, I. de las Casas, R.S. de las Casas, F. Garcia, J. Garcia, J. Gonzalez, Ricardo Tendero, Alfredo Blanco, project team*

Contractor: *Rearasa*

The remains of three chapels (left and opposite) have been transformed for new uses. One is a meeting room, another is an exhibition and lecture room, and the third houses the reception and management areas.

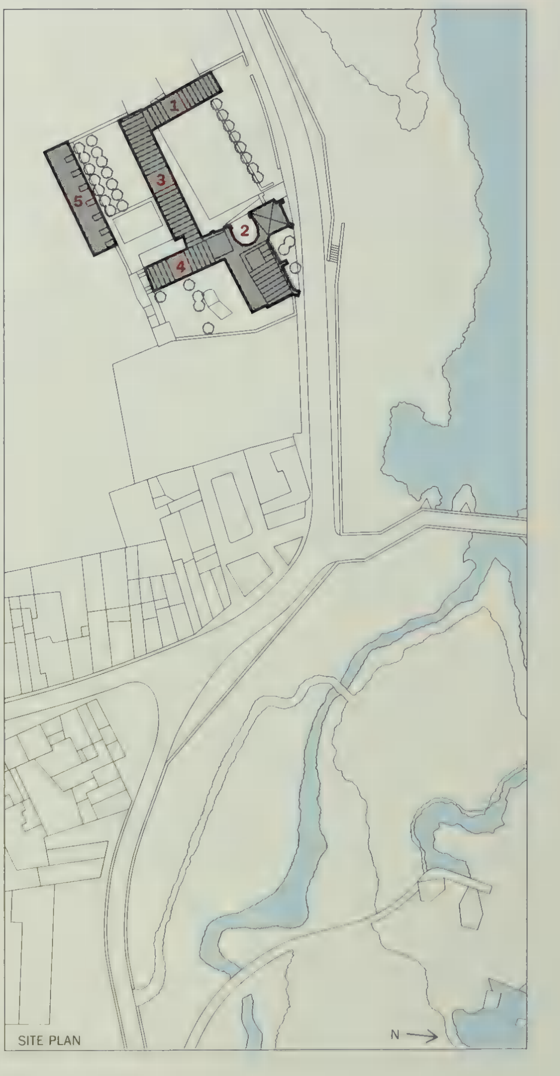
His design follows the traces of the monastery's layout, leaving as outdoor gardens the spaces of the original cloister and church. De las Casas explains that "the new buildings are very simple, a background to the open spaces, which are the fundamental elements." The different functions and buildings are thus fragmented across the site, as in a ruin, connected only by the gardens. As a result, landscaping and planting have received as much care as the details of the construction.

De las Casas maintained what he calls a "Ruskinian" approach to the ruins, in that he sought to preserve their "patina," the scars and stains of time and deterioration, which Ruskin felt to be essential to the character and aesthetic impact of works from the past. Working with master stonemasons, he sought only to "stabilize the ruins so they wouldn't fall down." In the same spirit, the new structure was clad in self-oxidizing corten steel, chosen as a contemporary complement to the weathered sandstone of the ruins.

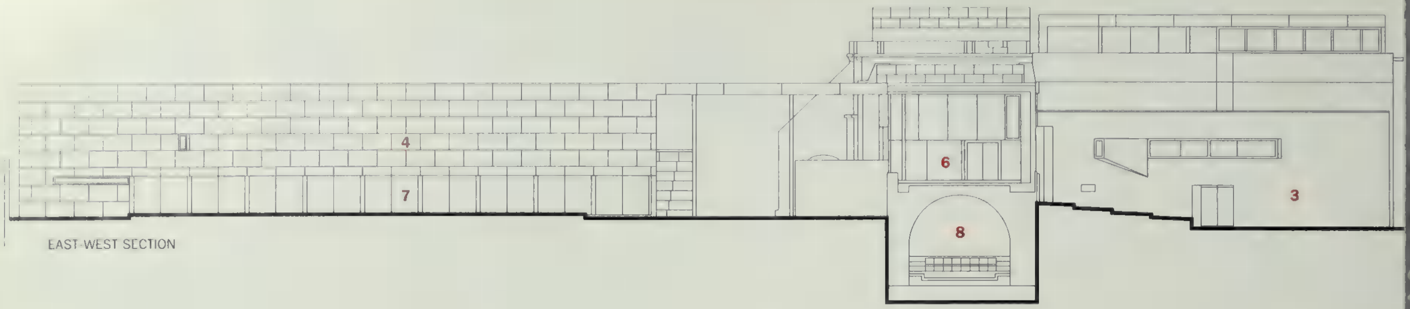
DE LAS CASAS PROPOSED A BUILDING THAT WOULD PRESERVE THE SUGGESTIVE BEAUTY OF THE RUINS.

The main entry to the institute from the street and screened parking area opens directly to the garden of the former nave, which De las Casas compares to a public plaza. The garden is framed by the curving apse and an L-shaped new building containing seminar rooms and a library on its second floor. These public spaces are raised on a windowless base, almost like a classical podium, which lifts them up to views over the monastery's original boundary wall to the spires of Zamora across the river.

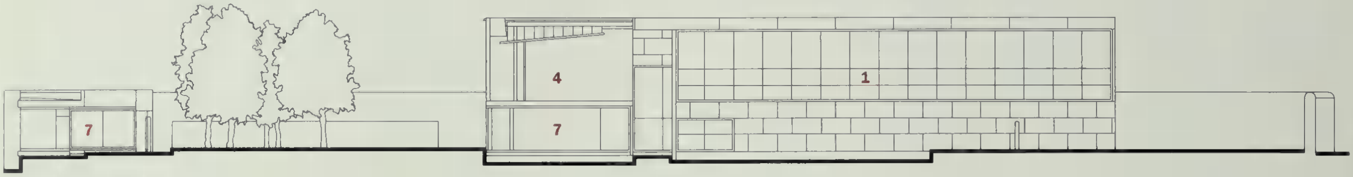
Beyond the paved section of the former transepts and crossing, De las Casas planted the nave area with rows of miniature cypress, interrupted by clearings containing an almond tree, an *alméz* or hackberry, a pomegranate, and a *azufaifo* or jujube—fruit-bearing trees that were introduced by Islamic invaders in the eighth century and often are found in old gardens of the Castilian plateau.



1. *Library*
2. *Old church apse*
3. *Dormitories/classrooms*
4. *Assembly/cafeteria*
5. *Dormitories*

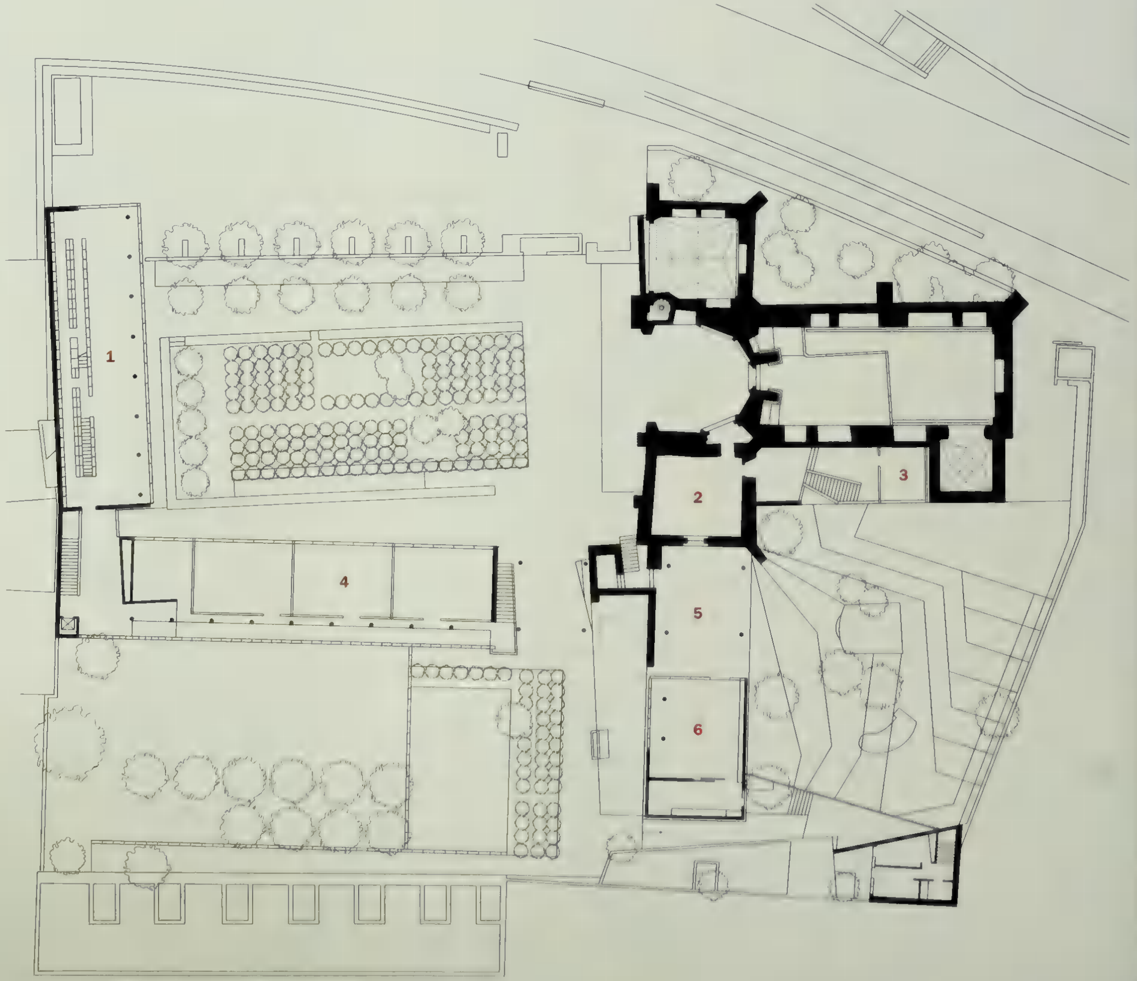


EAST-WEST SECTION



NORTH-SOUTH SECTION

1. *Library*
2. *Boardroom*
3. *Administration*
4. *Classroom*
5. *Dining terrace*
6. *Cafeteria*
7. *Dormitories*
8. *Assembly*



MAIN LEVEL

The roof of the classroom building extends to the cafeteria, and creates a union between the new and existing construction (left). This union also establishes a connection between the north and south patios (below).

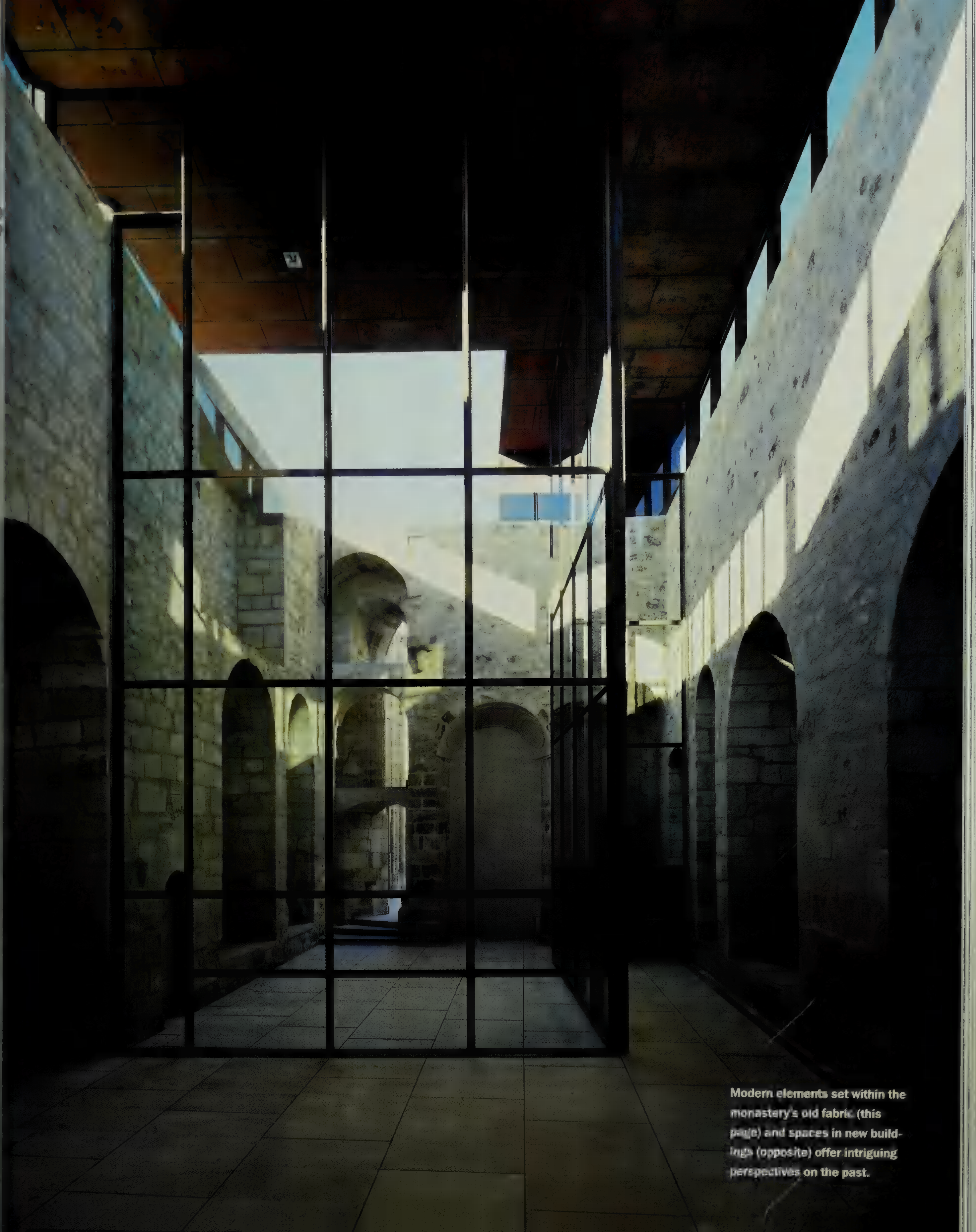
A monumental open-air portico leads from this space to the more private and informal garden of the former cloister, which is lined on one side with dormitories for students, located under the seminar rooms, and on the other with larger quarters for professors. The seven professorial suites are located behind the seven original openings of an existing wall. Each suite is arranged around a small private patio, like the cells in a Cistercian monastery. The roof above them is planted with wild herbs native to the region, whose aroma perfumes the air, while linden trees shade the garden's center. A raked sand garden outlines the foundations of the old refectory, evoking both the meditative sand gardens of Japanese monasteries and the furrowed fields of Castile.

IT WOULD BE AN UNDERSTATEMENT TO DESCRIBE DE LAS CASAS' WORK AS AN ARCHITECTURE OF PLACE.

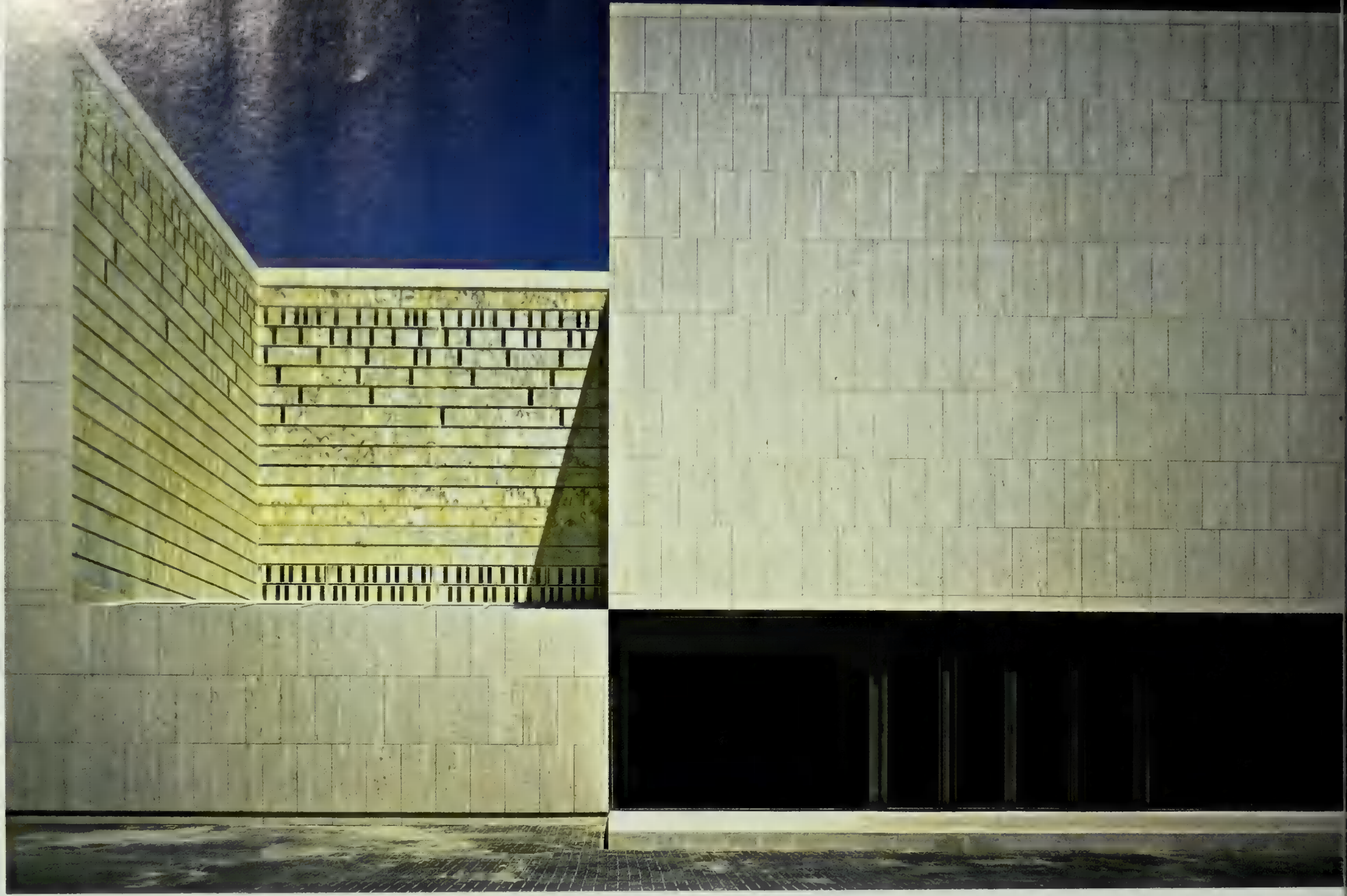
The high portico leading to this garden also unifies scattered entries to other elements. In the new wing, a granite stair rises to access the classrooms and library. Behind the apse, narrow flights of old stone stairs lead down to a semi-buried cellar, reconstructed as a public auditorium, and up to the newly built cafeteria on its roof, with a raised and covered terrace that captures evening breezes in the summer and offers spectacular views of the city.

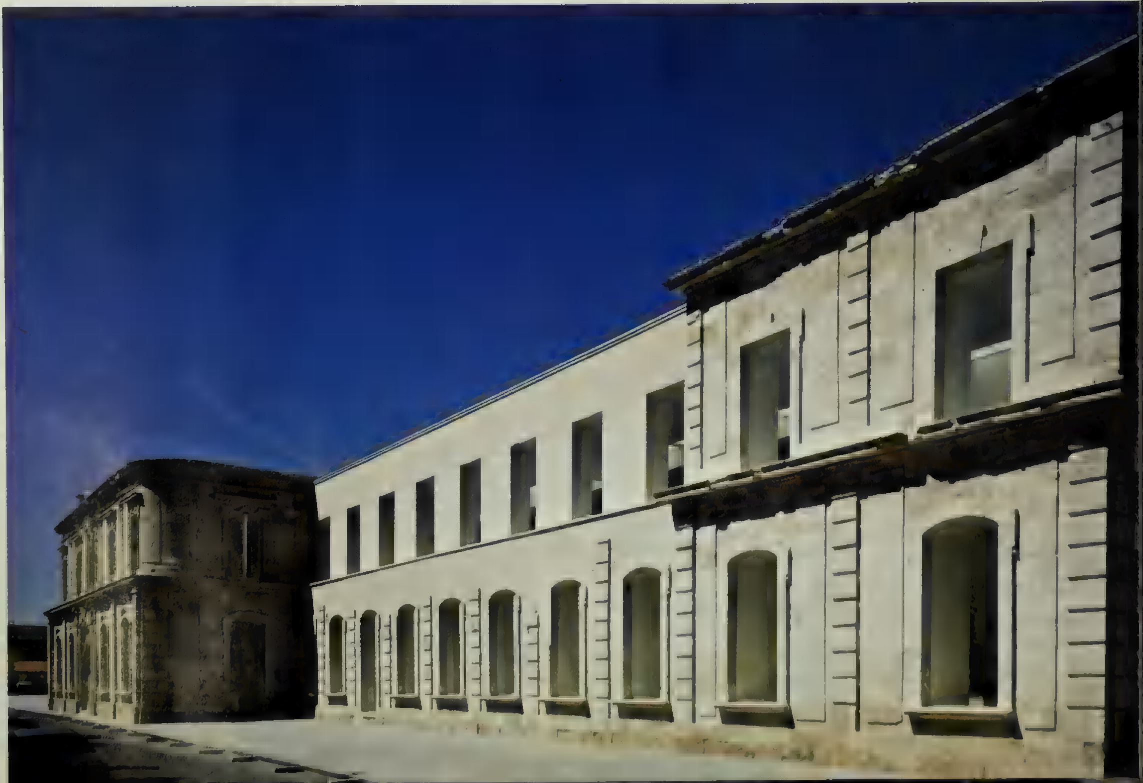
In the adjacent ruins, two intact side chapels were minimally restored for use as an administrative center and boardroom. Their original Gothic vaulting was protected on the exterior by simple stone enclosures. A larger roofless chapel, used as an exhibition hall, was enclosed only partially by a new roof that hovers above it, maintaining the powerful impression created by its exposure to the elements. A deteriorated fresco in one of the chapels was left as it was found, and two windows were filled with stained glass designed by the architect's wife, the artist Felicidad Rodríguez, who also designed the deep green tones of the library's walls. Other new windows and doors are of cedar or corten steel framing, and floors are of local granite.

It would be an understatement to describe De las Casas' work as an architecture of place. In its immersion in the forces gathered on the site, the interwoven themes of history, nature, time, death, and the persistence of life and culture, the institute invokes a romantic 19th-century tradition. De las Casas is able to achieve this depth of expression using simple and abstract forms. In the institute, he has enlarged the expressive range of architecture not through a dense formal development, but rather through a sensitive orchestration of environmental relations and poetic associations. ■



Modern elements set within the monastery's old fabric (this page) and spaces in new buildings (opposite) offer intriguing perspectives on the past.



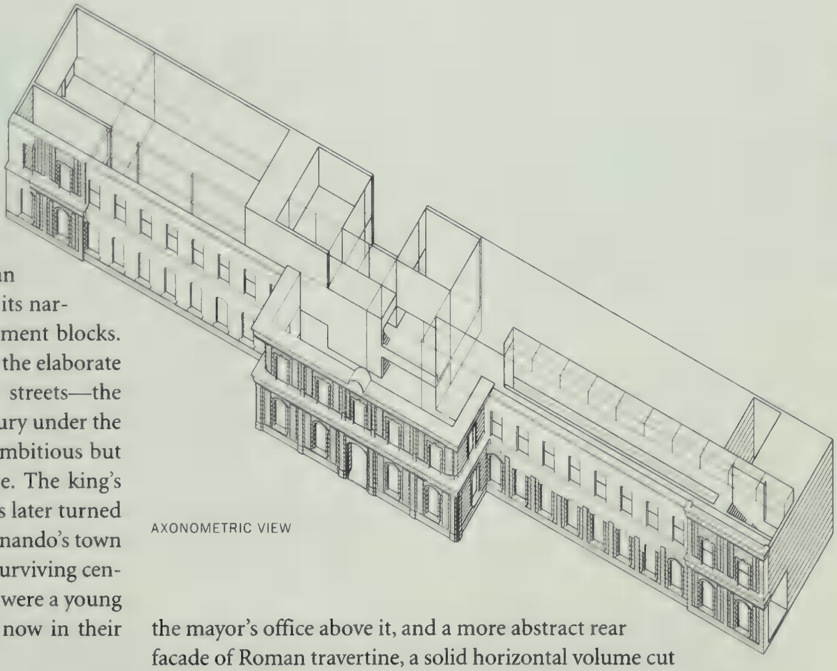


On both the front (right) and rear (above) facades, the architects combined the axes, rhythms, and grids of the Baroque with their own modern approach of hollowing out solid blocks from different directions.

In an industrial village near Madrid, Madridejos and Sancho sculpt a TOWN HALL AND CIVIC CENTER using a series of intersecting blocks and voids

By David Cohn

San Fernando de Henares is a small industrial town of 28,000 inhabitants situated 10 miles east of Madrid. Like most of the working-class communities that ring the Spanish capital, San Fernando shows little evidence of its historic fabric except its narrow streets, which are now crowded by modest, low apartment blocks. San Fernando stands apart from its neighbors, however, for the elaborate design of circles, radial axes, and plazas traced by these streets—the remains of a model town plan laid out in the mid-18th century under the direction of King Fernando VI. The plan was part of an ambitious but failed scheme to establish a royal cloth factory on the site. The king's palacelike factory, built in sumptuous Baroque fashion, was later turned into a hospital and eventually fell into ruin. In 1994, San Fernando's town council organized a design competition to incorporate the surviving central facade in a new town hall and civic center. The winners were a young Madrid couple, Sol Madridejos and Juan Carlos Sancho, now in their early 40s, who at the time had yet to complete a building.


AXONOMETRIC VIEW

Madridejos and Sancho belong to a rising new generation of Spanish architects who have come to prominence entirely through such competitions. Their projects have won the attention of juries for their formal rigor, derived in part from the study of spatial concepts found in contemporary sculpture.

According to the architects, the design for San Fernando was developed using a method of "spatial projection" employed by the well-known contemporary Basque sculptor Eduardo Chillida. A solid block is hollowed out from different directions by spatial voids, which are projected in depth over one another to create what Chillida calls different "densities of space." The architects contrast this method of "constructing space" with what they term the "vectorial" approach of the existing Baroque facade and its urban setting, in which space is defined through the use of axes, grids, rhythms, repetitions, and the like.

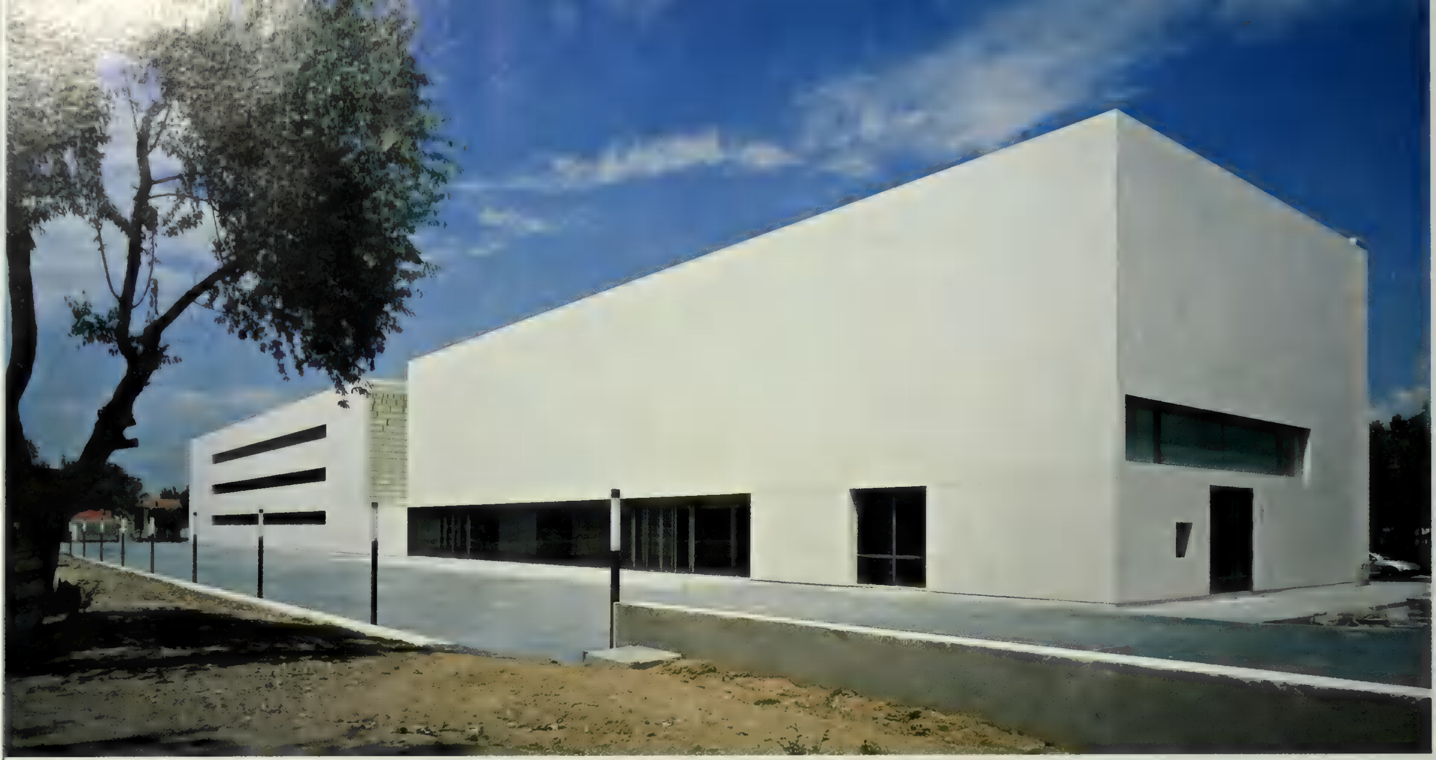
In this sense, their new town hall has two faces, like the Roman deity Janus: a centralized Baroque front incorporating the main entry and the mayor's office above it, and a more abstract rear facade of Roman travertine, a solid horizontal volume cut by deep voids, whose projections and reflections are played out in the interior composition.

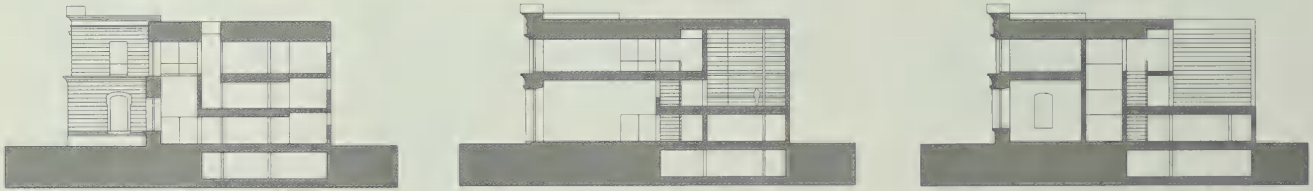
Project: *San Fernando de Henares Town Hall and Civic Center, Madrid, Spain*
Architect: *Juan Carlos Sancho Osinaga and Sol Madridejos Fernández*
Engineer: *F.C.C. Construcción S.A.*
Consultants: *F.C.C. Construcción S.A. (lighting, acoustical, general contractor)*

This ambitious formal apparatus is smoothly integrated into an efficient functional layout, with civic and administrative wings dividing the building. The civic wing includes a ground-floor social center for senior citizens, and a council chamber and a hall for civil weddings on the second floor. In the administrative wing, ground-floor offices for public consultation are succeeded by second-floor technical departments and third-floor political offices. The new spaces are separated from the Baroque facade by a continuous, covered light court, which serves as a multipurpose hall on the civic side and a circulation gallery for the administrative wing.

The highlight of the design is a cubic void cut out of the rear facade and lined with a curtain of translucent onyx backed by glass. This 25-foot cube picks up an almost metaphysical theme that appears in all the architects' work, that of a "light and luminous void, subtracted from and set in contrast to a heavy, solid volume," in the words of Madridejos. Scattered openings between the leaves of onyx, based on mathematical series, admit dappled patterns of light to the 25-foot cube of the adjacent wedding hall, and offer fragmented exterior views from other spaces.

The cubic void is part of an elaborate three-dimensional puzzle of intersecting and interlocking spatial volumes, a formal composition

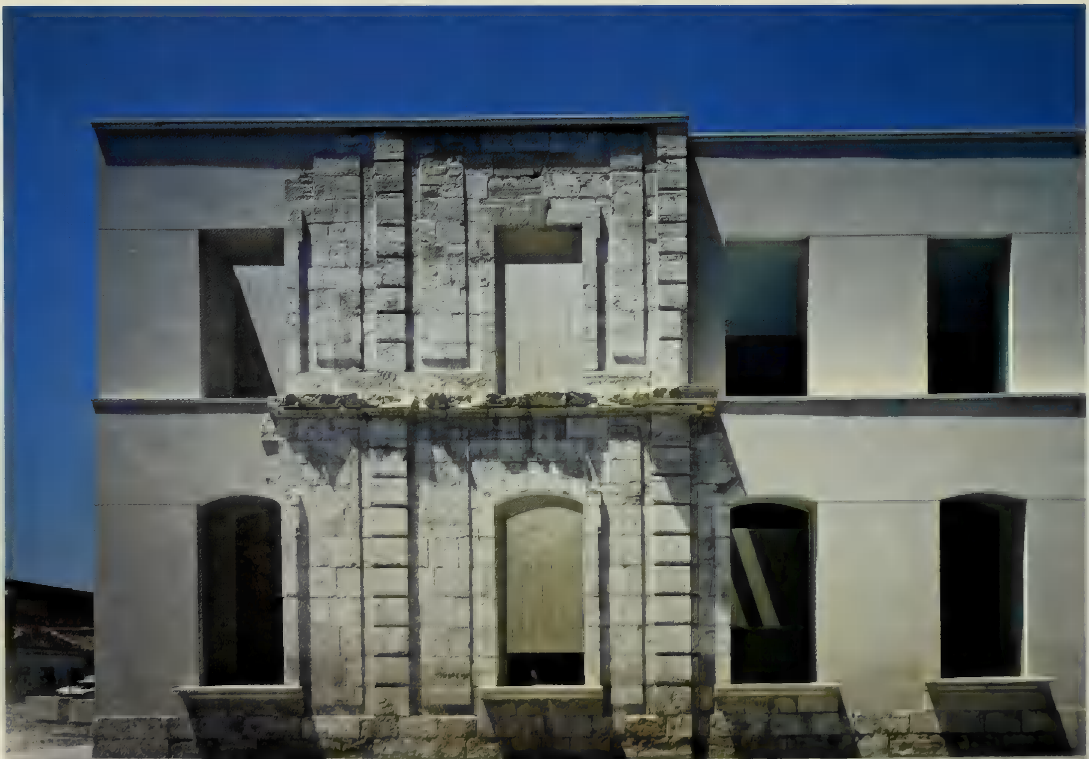




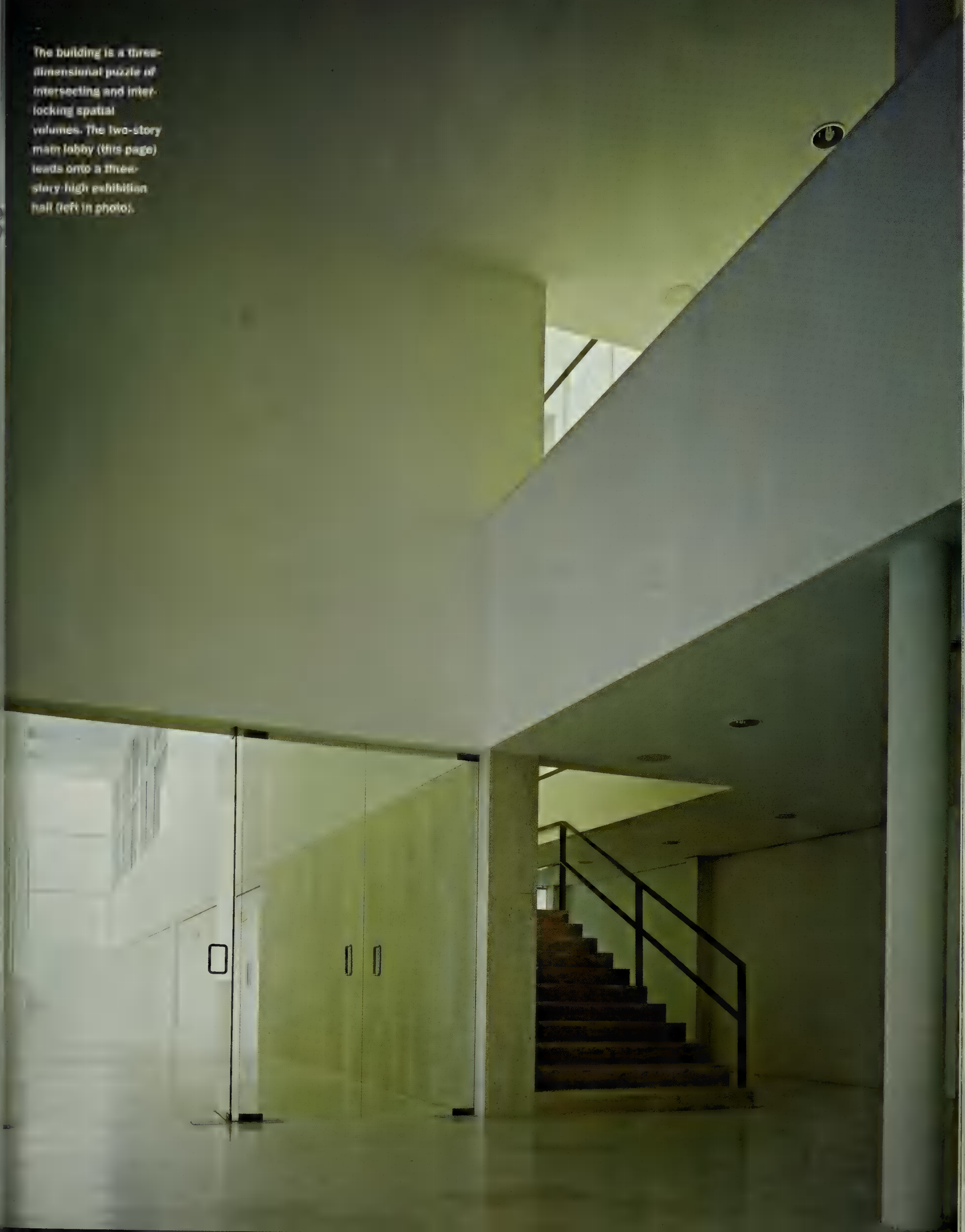
SECTION A-A

SECTION B-B

SECTION C-C

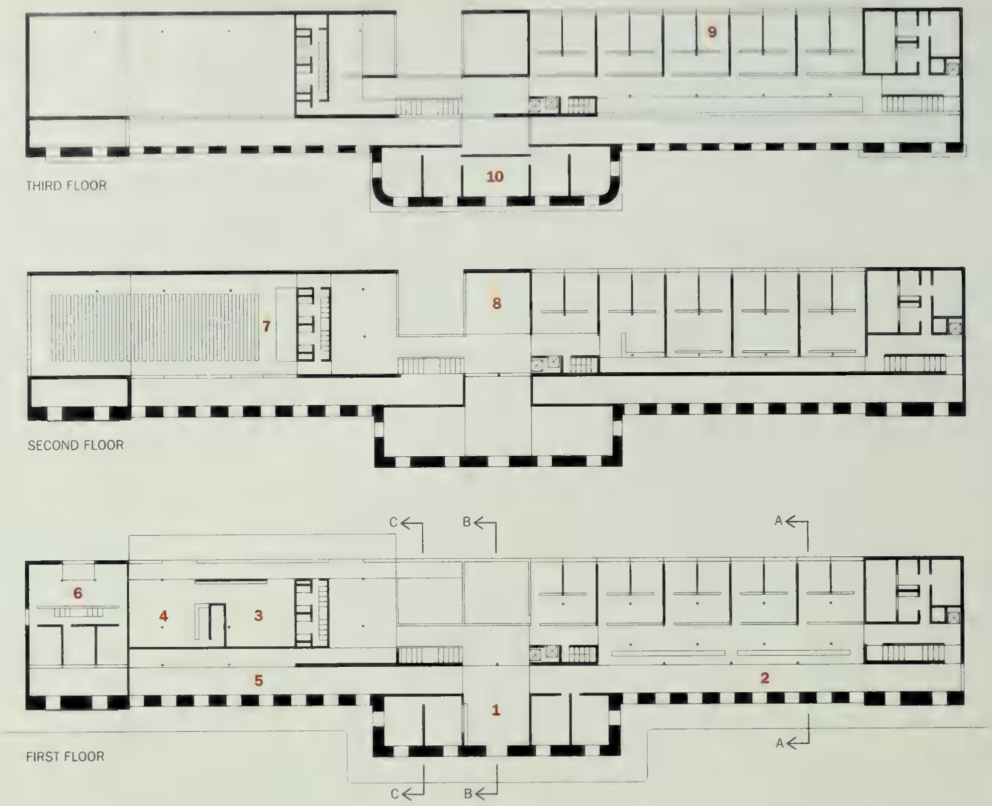


Madridejos and Sancho restored the badly deteriorated Baroque remnants and designed new portions of the facade that maintained the old rhythm of openings and thick masonry construction without the original detailing.

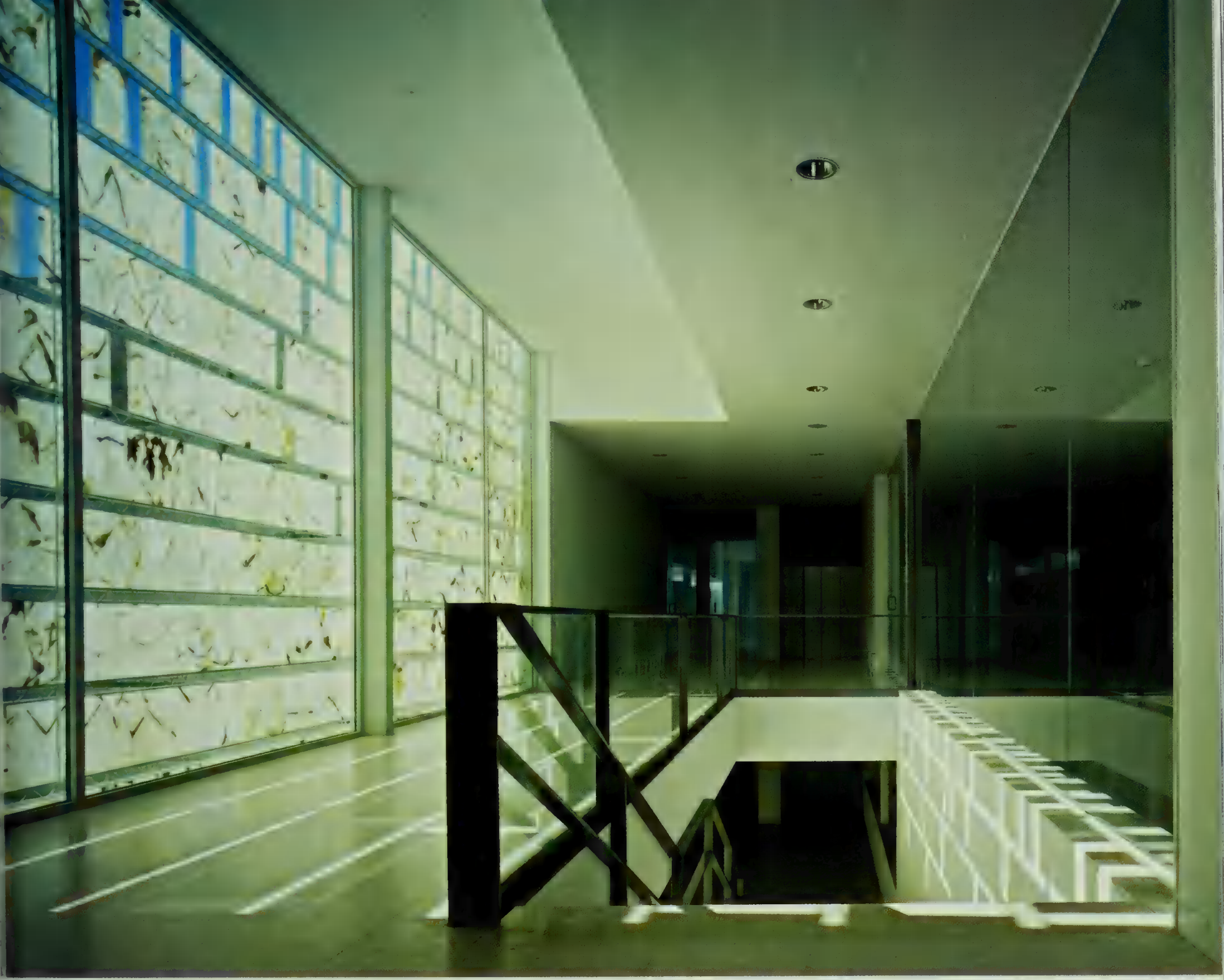


The building is a three-dimensional puzzle of intersecting and interlocking spatial volumes. The two-story main lobby (this page) leads onto a three-story-high exhibition hall (left in photo).

1. *Lobby*
2. *Administration*
3. *Civic center*
4. *Cafe*
5. *Exhibition hall*
6. *Police*
7. *City council meeting room*
8. *Reception*
9. *Political area*
10. *City council offices*



Offices in the political area (left) overlook a skylit two-story atrium. An auditorium space (below) is used for city council meetings and other civic gatherings. A wall of translucent onyx stands behind a glass curtain wall near the entrance to the city council meeting room and expresses the architects' ongoing fascination with contrasts between luminous elements and those that are heavy and solid.



based on multiples and divisions of cubes, squares, and the golden section. On the rear facade, the void is counterpoised, in what the architects call "tangential tension," to the horizontal void of the ground-floor entry to the social center, a spatial cut that projects into the multipurpose hall beyond. The wedding hall can in turn be read in plan as a spatial projection of the main entry hall on the opposite side of the building, and as a reflection of this projection 90 degrees into the exterior void. As the visitor explores the interior, the design begins to hum with similar spatial correspondences, reflections, and transpositions.

In restoring the badly deteriorated Baroque facade, the architects jacked up the sagging lintels and fixed them in place by injecting adhesive resins in the original limestone. They also re-created missing sections of wall, maintaining the rhythm of openings and the thick masonry construction, but without the original detailing. Inside, finishes offer tactile variations on an abstract Modernist white, including polished limestone floors, bleached wood cabinetry, white metal columns, and walls of stucco with panels of travertine that underline the spatial and harmonic play.

This abstract architecture of white forms recalls in some ways the neo-Corbusian rigor and formal complexity of Richard Meier's work. The obvious difference is that Meier's spaces owe much to Colin Rowe's analytic interpretation of the Corbusian vocabulary, as developed in celebrated essays such as "Transparency: Literal and Phenomenal" (written with Robert Slutzky, 1955–56). By using Chillida's spatial projections, Madridejos and Sancho introduce a welcome formal variation to the Modernist vocabulary. Their vibrant play of solid masses and deeply shadowed or luminous voids adds weight and expressive intensity to the phenomenal planes and spatial layering of American Neo-Modernism. The San Fernando City Hall assumes the modern tradition as a living, contemporary language, restoring the town's fragile civic dignity and projecting it toward the future. ■

Sources

Windows: *Perfrisa*

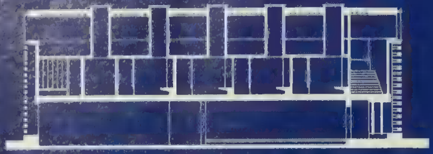
Floors: *Travertine Stone*

Aluminum square lights: *Vanlux S.A.*

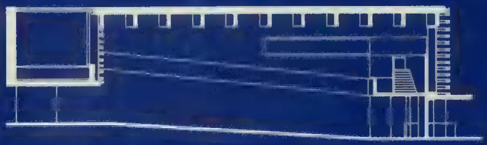
Downlights: *Philips*

Task lighting: *Liderlux, S.L.*

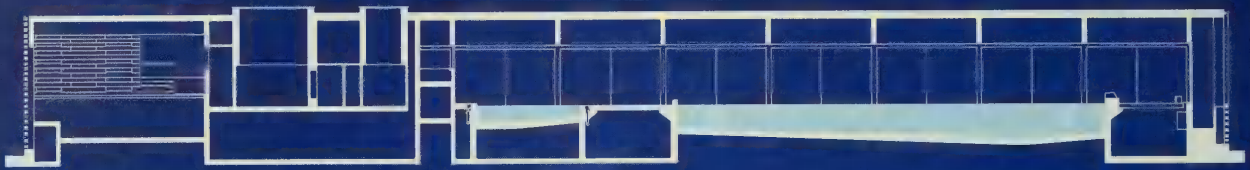
WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**



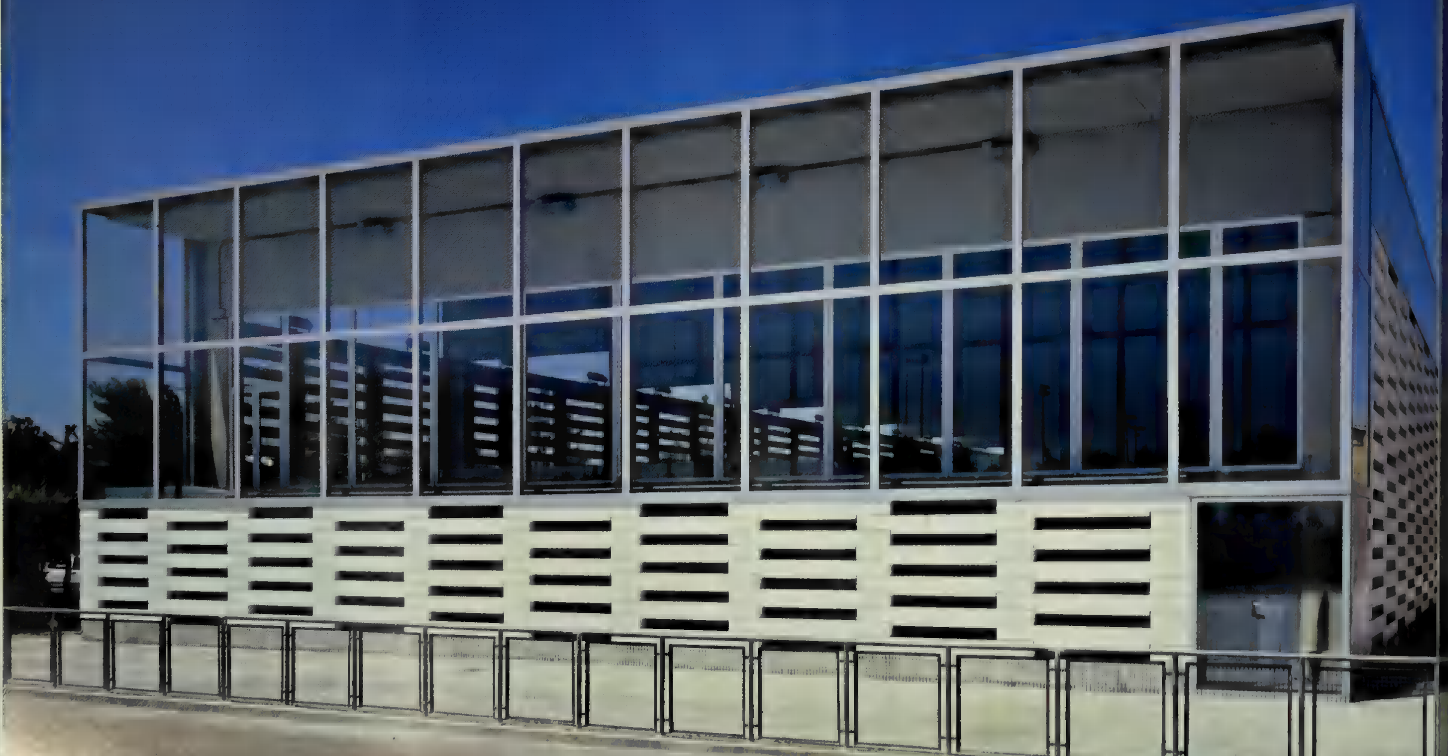
SECTION THROUGH LOCKER ROOM



SECTION THROUGH VESTIBULE



LONGITUDINAL SECTION

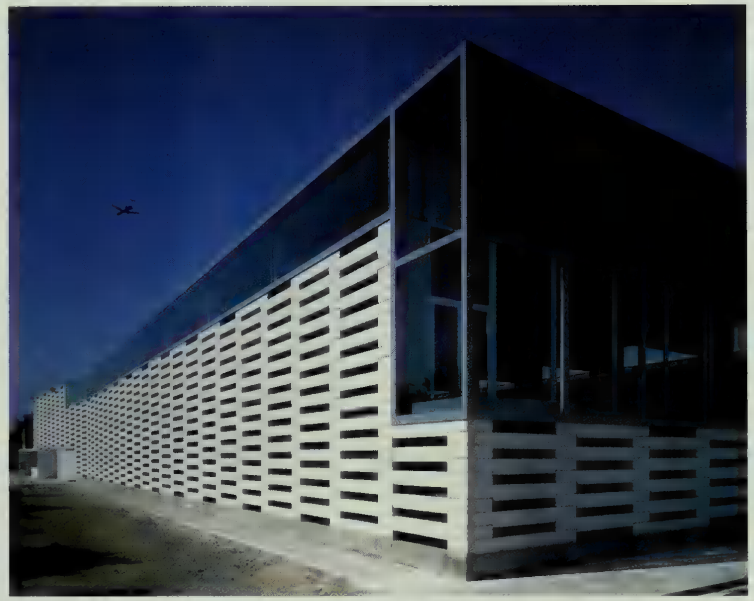


Luis Mansilla and Emilio **Tuñon** wrap an indoor **SWIMMING POOL** in a concrete lattice where light dances on water

By David Cohn

The main feature of the San Fernando Swimming Pool, a competition-winning project designed by Madrid architects Luis Mansilla and Emilio Tuñon, is a latticed exterior composed of custom prefabricated concrete elements modeled on railroad ties. During the day, they scatter dappled patterns of light across the pool, which mix with dancing reflections from the broken surface of the water.

Luis Mansilla explains that the combination of the tough materiality of the concrete and the abstract visual patterns they create is a recurring theme in their work: "All our projects are related, at bottom, by a very precise definition of the exterior and the entry of natural light."



Latticed walls shield the swimming pool from its inhospitable surroundings—the structure is wedged between a nondescript sports facility and high exterior fencing.

The concrete lattice is part of a complex wall system backed by concrete piers, whose interior bays facing the pool are filled in with glass. The piers are topped by a continuous concrete lintel that supports the deep roof beams. The open ends of these beams are in turn enclosed in a continuous strip of glass above the latticed walls, admitting a more direct light that visual lightens the weight of the roof.

The deck is raised several feet above the ground due to the high water table at the riverside site, with the mechanical equipment area located below it. The entry and skylit locker rooms are situated at one of the structure's narrow ends, while the other overlooks playing fields and distant treetops through clear glass walls.

Now in their early 40s, Mansilla and Tuñon form part of a close circle of contemporaries who are active teachers, critics, theorists, and designers; their projects and critical writings can often be found in the pages of the Madrid journal *El Croquis*. Other members of the group include Juan Herreros and Iñaki Ábalos, whose work was featured in the 1995 *Light Constructions* exhibit at the Museum of Modern Art in New York; Federico Soriano and Dolores Palacios, designers of the recently completed Bilbao Opera; and Alejandro Zaera, professor at London's Architectural Association and winner with Farshid Moussavi of a 1995 competition for a cruise ship terminal in Yokohama, Japan.

After graduating from Madrid's School of Architecture in 1982, Mansilla and Tuñon began as project architects for Rafael Moneo from 1983 to 1993, working on projects such as the Atocha Railroad Station in Madrid and the Seville Airport. They opened their own studio with the commission for the Provincial Museum of Zamora, which won the European Union's Mies Van der Rohe Prize in 1997, and have gone on to win a series of national competitions, for a central library in Madrid (1995), a concert hall and arts center in León (1995 and 1997), and a museum in Castellón (1997), all currently in development.

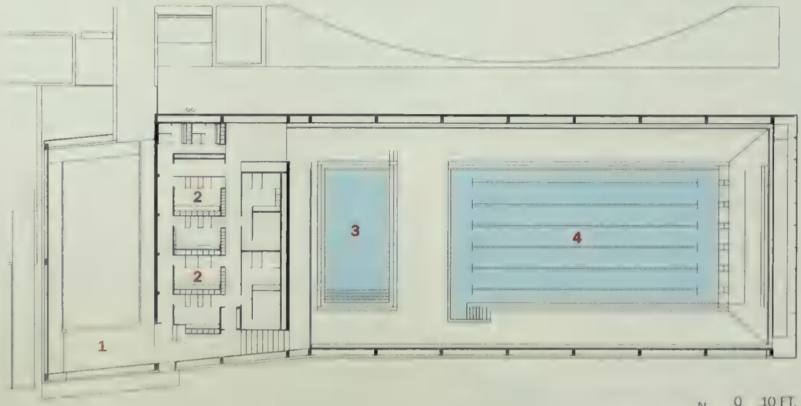
The San Fernando Swimming Pool is a good introduction to the architects' design concerns. Its apparent simplicity can easily lead one to overlook its sophistication—the multiple sensory contrasts offered by the muscular power of the structural concrete, the playful lighting effects, and the serene, floating space of the pool, with its neutral gray-tile deck and focused view. This quiet sophistication is at the heart of Mansilla and Tuñon's design philosophy, which they summarized in a 1999 essay in their small-circulation journal *Circo*: "Architecture isn't exactly silent. It is more like a conversation in lowered voices. Ideas are present, but the true effort lies in making them invisible." ■

Project: *Indoor swimming pool, Madrid*
Architect: *Luis Moreno Mansilla & Emilio Tuñon—Santiago Hernán, Juan Carlos Corona, Altonsi G. Gaite, David Nadal, Fernando Garcia, Robert Reninger, Andres Regueiro, Maria Linares, project team*
Consultants: *JG & Asociados S.A.*

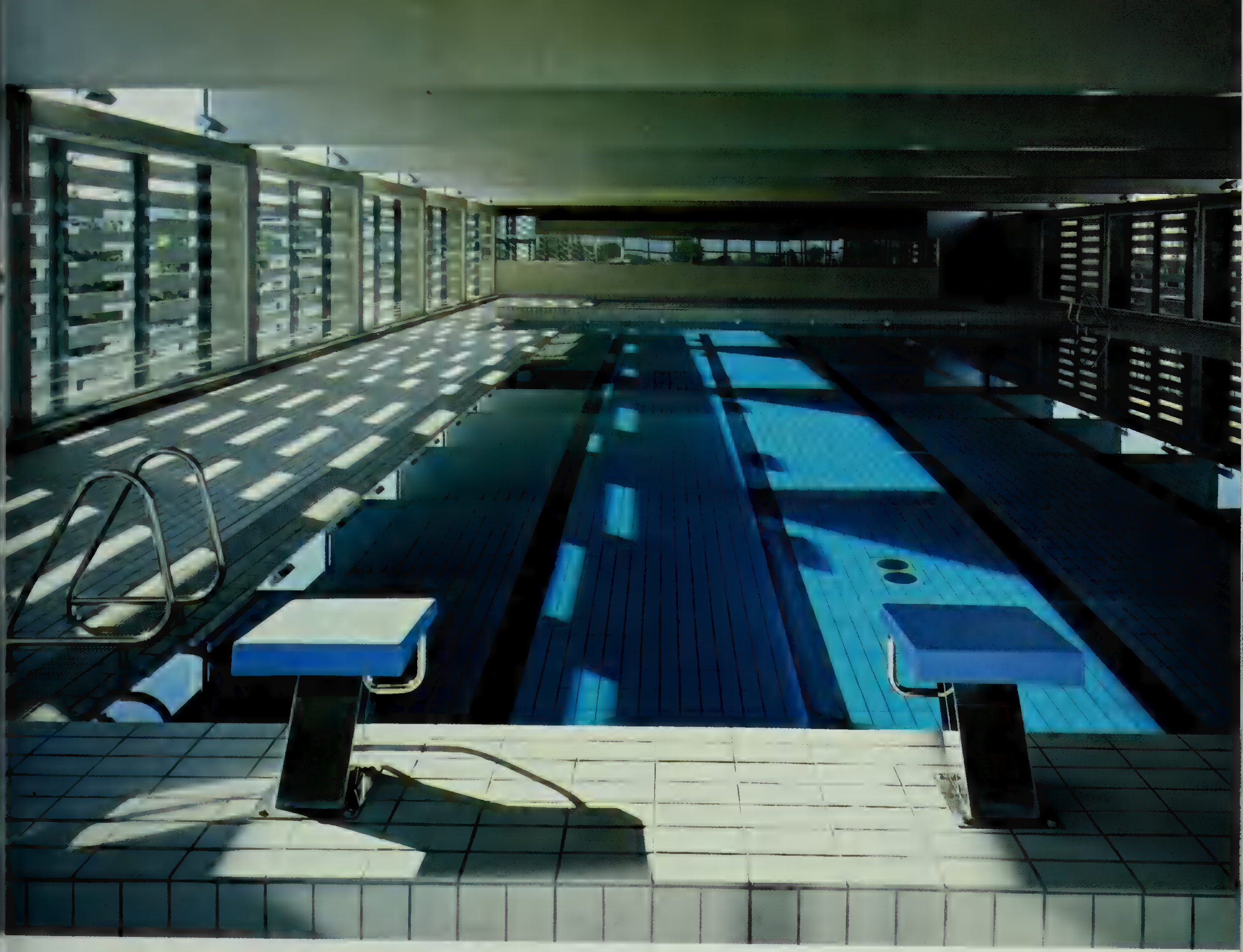
Sources
Glass: *Chrisaleria Española*
Paint and stain: *Kein Cocretal*
Plastic laminate: *Trexpa*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* ***www.architecturalrecord.com***

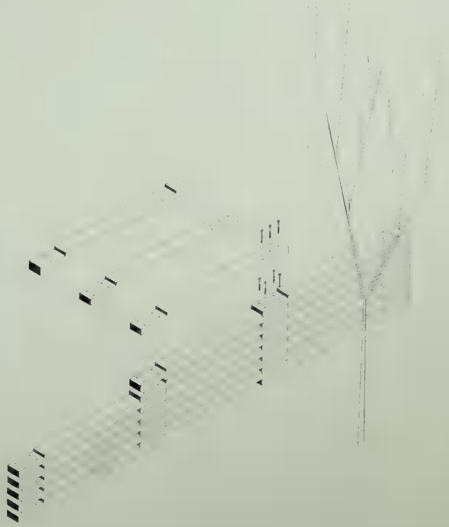
1. *Entry*
2. *Locker room*
3. *Small pool*
4. *Large pool*



FLOOR PLAN

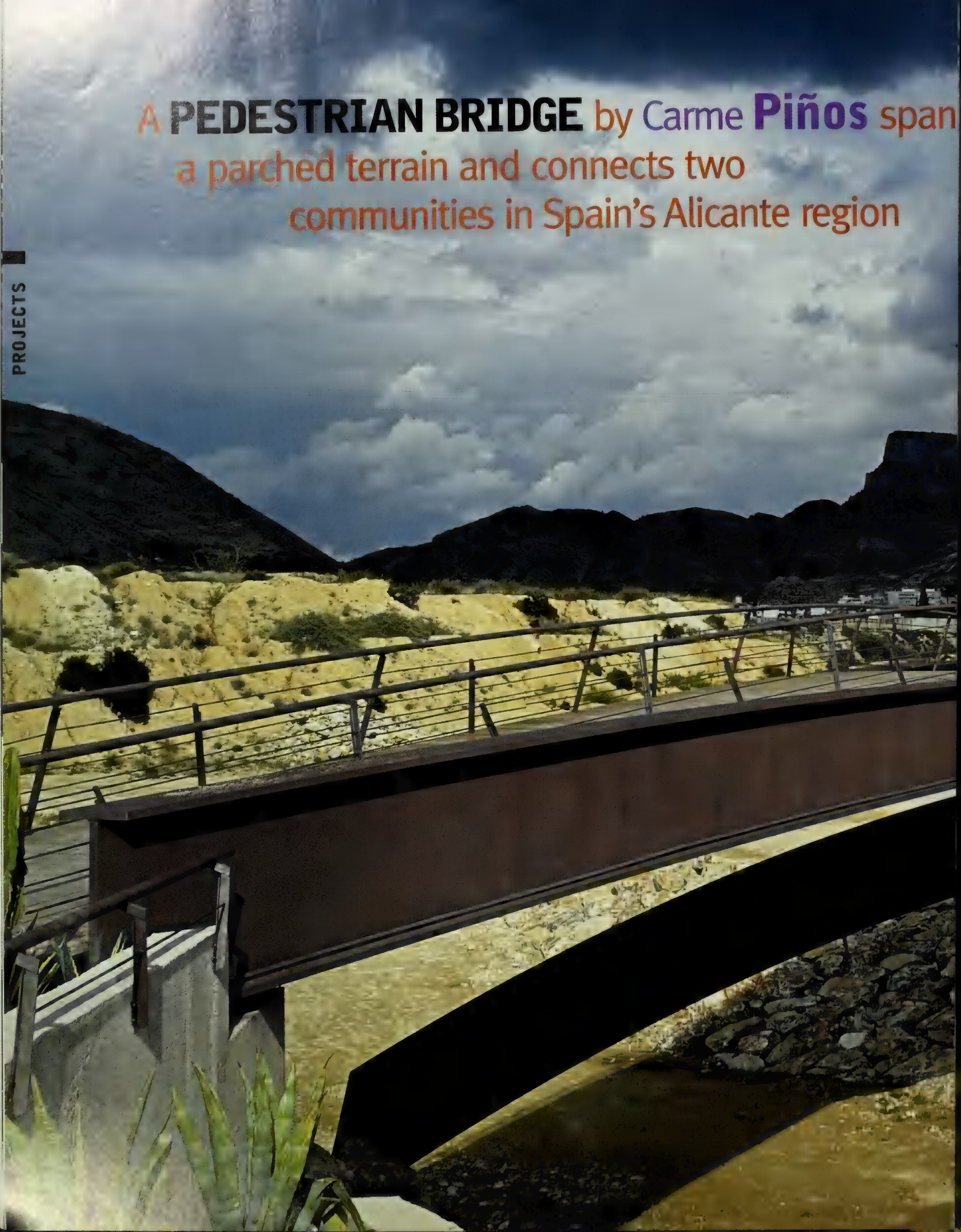


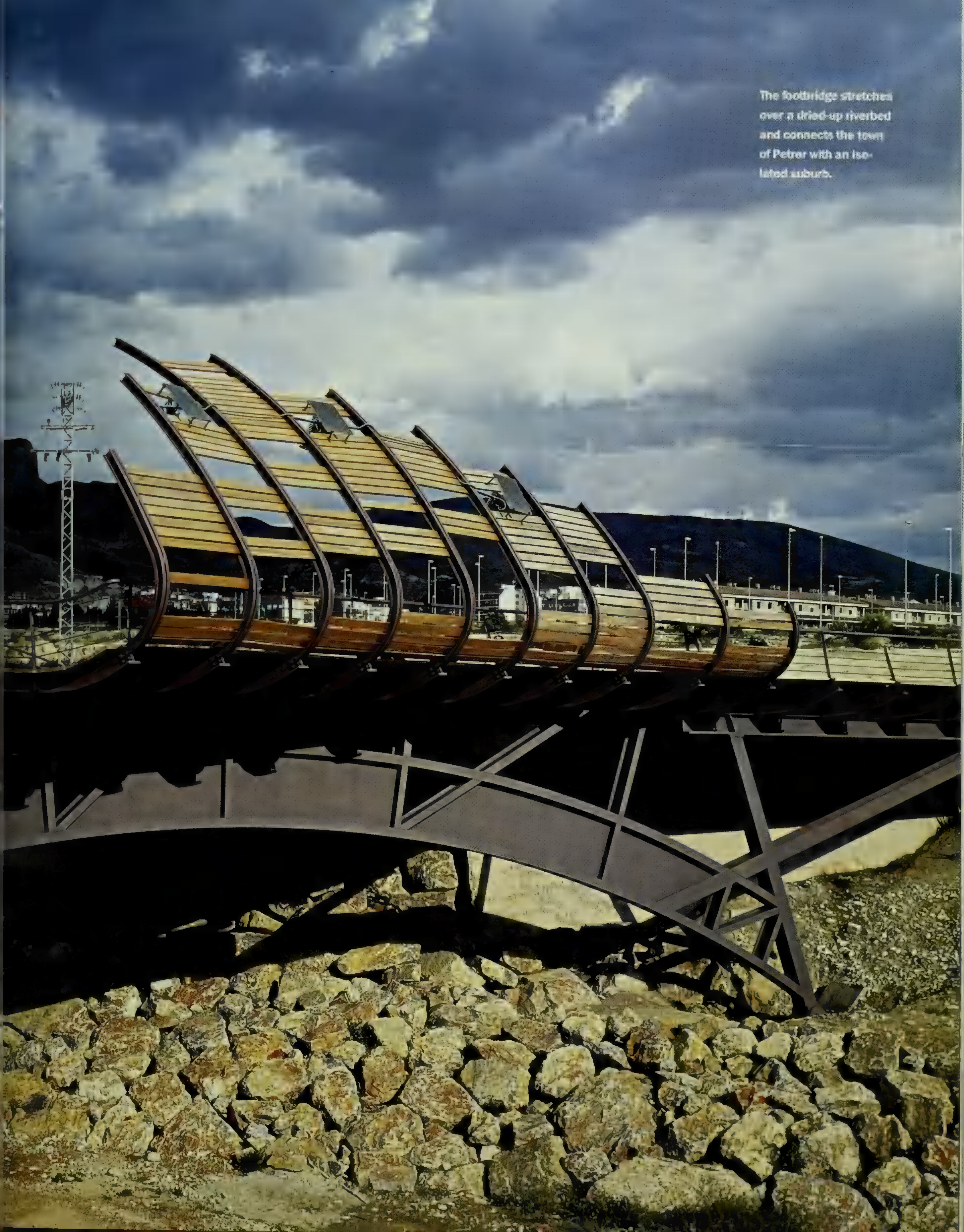
Like the traditional shuttered windows of Spanish houses, the latticed exterior permits contact with the outdoors while protecting the interior from inquisitive eyes (this page and opposite). At night, the building glows like the cut-out face of an illuminated jack-o'- lantern.



WALL AXONOMETRIC

A PEDESTRIAN BRIDGE by Carme Piños span a parched terrain and connects two communities in Spain's Alicante region





The footbridge stretches over a dried-up riverbed and connects the town of Petrer with an isolated suburb.

Dominique Tomasov, AIA

"More than drawing plans, we illustrate experiences," says architect Carme Piños, whose work reveals the underlying sensuality of the terrain of Spain. "Anything that speaks to us of life, that helps us understand human behavior, its needs, the everyday; anything that helps us define the corporeal nature of these concerns incites our utmost attention," adds Piños. Building and landscape appear to overlap, all of a piece. Petrer's Bridge, the first solo project by Piños after her long collaboration with Enric Miralles, is a good example of this synthesis of land and man-made structure. The commission called for a foot bridge to connect the town of Petrer, in Alicante, with an isolated suburb lacking its own public square. The site's principal features were the dried-up riverbed in the middle of a rural no-man's land, stone ruins of a Gothic aqueduct, and the view of mountains in the distance.

"ON THIS BRIDGE THE TOWNSPEOPLE ENCOUNTER THE PUBLIC SPACE THE TOWN WAS LACKING."

"I wanted the bridge to be static rather than dynamic so that pedestrians would take a long time to cross it and perhaps even take a moment to stop," Piños says. "On the bridge the townspeople encounter the public space the town was lacking." As the architect anticipated, the main users of the bridge are children, who play year-round upon and below it.

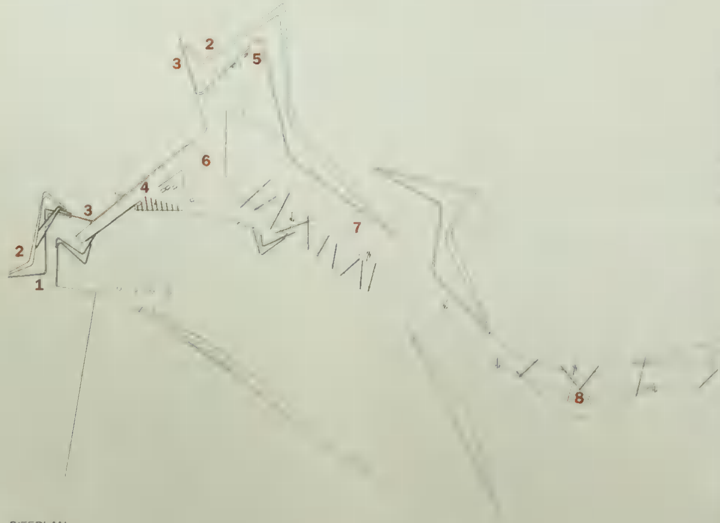
Three intersecting steel arches and joists form the main structure. On the side of the old aqueduct, the joists rise above the platform like ribs forming a balustrade and canopy to contain the observer. The wood-slat paving gently slopes, leading pedestrians to face the mountains. The wood members rise up in spots to create benches or part to make room for trees. Additional seating is built along the stone and concrete walls. Piños says her intent was to design a controlled environment, halfway between an urban and a landscaped space. Therefore the bridge has low lighting levels at night, with only a few spotlights along the road leading to the town, one fixture mounted in the middle of the plaza, and another at one corner.

Piños chose iroko—a tropical wood popular in Spain for exterior applications—and steel coated with a special earth-toned, metallic-looking paint (corten steel was discarded for budgetary reasons, and because of its tendency to stain when washed out). The concrete forming pedestals and walls matches the color of local soil. Sharp shapes were avoided, in favor of sloping planes and undulating lines. Even marks produced by the formwork were disguised, while anchor holes were patched and the concrete's aggregate was exposed with high-pressure water. The raised roofline helps mask an adjacent warehouse while enhancing the sense of enclosure for pedestrians, who turn toward the view of the mountains on the other side. "It is very pleasing to be in this place," says Piños, "It offers a slowness within an unfriendly context. I am not interested in virtual effects, but in buildings that are comprehended from experience." ■

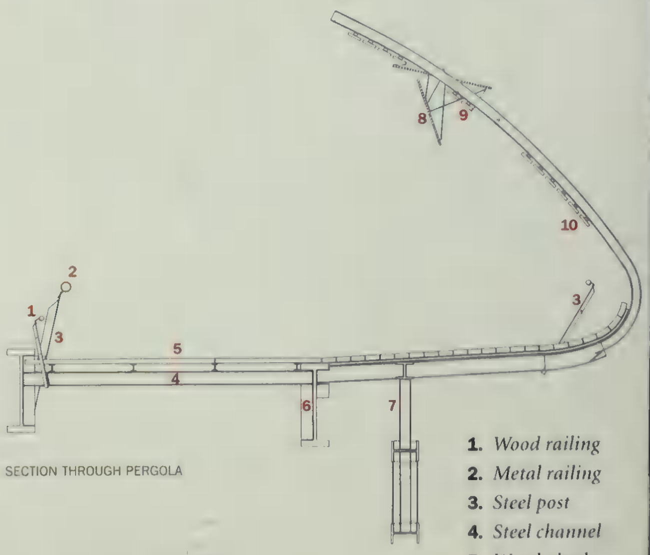
Dominique Tomasov, AIA, *is an American architect who works as an independent consultant in Barcelona.*

Project: *Pedestrian bridge in Petrer, Alicante, Spain*
Architect: *Carme Piños Studio—Carme Piños, partner-in-charge; Juan Antonio Andreu Rocamora, Miguel Lluch, Carlos Pascual, Miguel Llorens, Jochem Schneider, design team*
General contractor: *Necso Entrecanales Cubiertas*
Landscape consultant: *Teresa Galí*

1. *Entry*
2. *Packed-earth wall*
3. *Concrete wall*
4. *Bridge*
5. *Bench*
6. *Plaza*
7. *Lamp*
8. *Concrete platform*



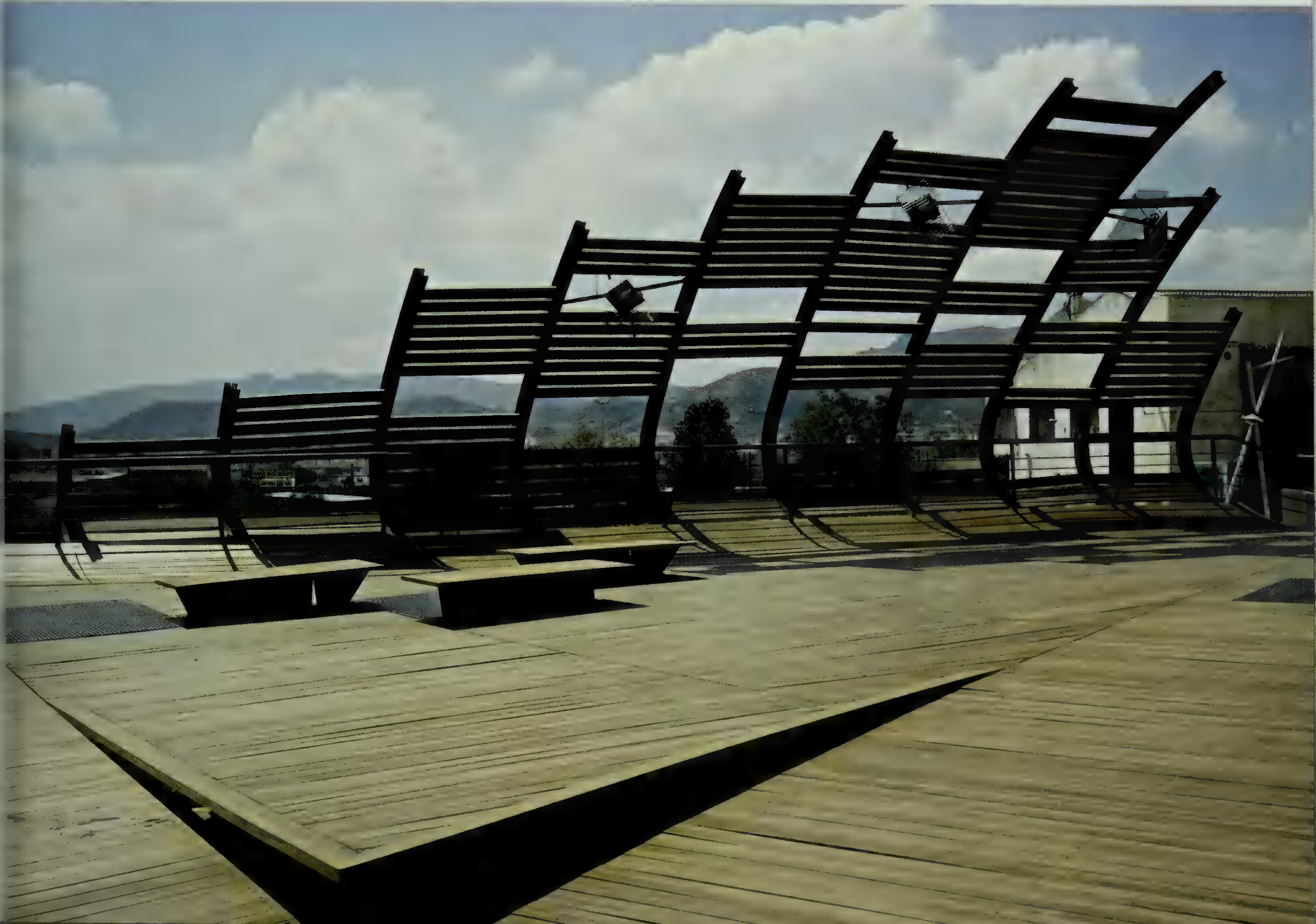
SITEPLAN



SECTION THROUGH PERGOLA

1. *Wood railing*
2. *Metal railing*
3. *Steel post*
4. *Steel channel*
5. *Wood plank*
6. *Steel beam*
7. *Steel truss*
8. *Light diffuser*
9. *Luminaire*
10. *Wood board*

The main structure, on the side of an old aqueduct (above), rises up above the platform like giant steel ribs, forming a balustrade and canopy (right and below). Benches sit along the stone and concrete walls, providing a place to rest in the arid landscape.



In HOLLAND th

hock of the **new**

Can a new architecture of aggressive individualism take root in a famously consensus-driven culture?

By James S. Russell, AIA

Although greenery is ubiquitous in the Netherlands, Dutch people readily admit that theirs is an entirely man-made landscape. Every square inch of land has been obsessively demarcated, planned, and designed. Such rigor is perhaps inevitable in a country that is largely made from reclaimed land and would slip underwater were it not for a gigantic, relentlessly maintained infrastructure.

It takes a lot of organization, planning, and consensus to keep such an unlikely nation viable, and these qualities the Dutch have in abundance. A rational, consensus-driven planning-and-design process that dates from the 1920s relies primarily on the public sector to determine what land is developed and how cities grow. It has helped make Holland among the world's best-housed nations while maintaining a high percentage of land in agricultural use. One can get out of even the largest cities in a few minutes by bicycle, car, or train. While in America, "social" planning became associated with massive, sterile housing blocks derived from the Corbusian vision and built for the purpose of warehousing poor people, in Holland social principles were devoted to minimizing class differences. Although the planning regime permits few Dutch people to live in big houses on large lots—something regarded virtually as a birthright in America—almost everyone lives in well-designed dwellings with good

1

light and access to at least a patch of garden. Americans may have more choice, but Dutch people value the knowledge that "you know what goes up next to you," says architect Jeroen van Schooten of Meyer & Van Schooten.

Architects and architecture are deeply embedded in the planning and construction process in the Netherlands [see also March 2000, page 206]. Architects have also maintained their status by surrendering their proclivity to individualized expression. There have always been exceptions, such as when Piet Blom turned cubes diagonally and mounted them on columns as housing. Until recently, though, a soft-edged neo-Modernism has prevailed. The following pages offer a sampling of the much gutsier, more individualistic strain of architecture that has recently emerged in Holland. It's easy to conclude that such psychologically complicated—even self-indulgent—buildings are the progeny of Rem Koolhaas, the Netherland's most prolific theorist of architecture. Stop living in "a straitjacket of self-effacement," Koolhaas urged in an influential lecture he gave at a 1990 symposium.

IN A NATION WITH A GOVERNMENT BOARD TO ASSURE "VISUAL DECENCY," THE UMBILICAL OF STATE SUPPORT HAS YET TO BE SEVERED.

Tiptoeing into the global-market maelstrom

A younger generation does acknowledge a debt to Koolhaas [see page 60], but the expressionistic architectural scene in Holland today appears to spring from a number of sources. As privatization and the winds of globalization buffet the Dutch economy, the nation has unwound many of the comforting strictures of the social-welfare state, in the process altering the state-centered planning process and a design process so reliant on social tolerance that the Rotterdam Planning Department could without fear of retribution deploy in 1993 a Miesian column-and-"privacy"-panel system for its carefully mapped Municipal Heroin Prostitution Toleration Zone.

Not long ago, 70 percent of Dutch housing was built by heavily subsidized social-housing societies. In the mid-1980s, they were told to privatize, and now only 30 percent of production is "social" housing. The government has lavishly funded the rebuilding and expansion of Schipol airport, one of Europe's major hubs, while permitting private, American-style office parks to proliferate along suburban freeways. Holland is fledging architecture, once heavily protected (continued on page 143)

3

PHOTOGRAPHY: LUUK KRAMER (1); THEO BAART (2, 3, AND PREVIOUS PAGE)

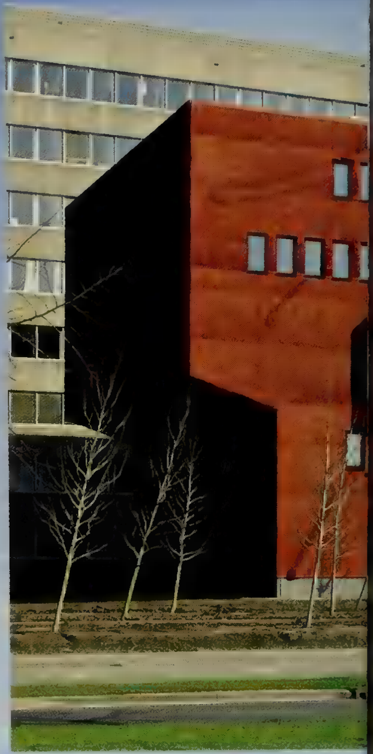
2

Nothing is overlooked in the placement or design of the buildings, landscape, structures, and street furniture in Haarlemmermeerpolder district (2), near Schipol Airport outside Amsterdam. For all the planning and attention these places receive, argues a new generation of designers, they look like they could be anywhere. Dutch designers are also taking a more critical look at housing, where multiple layers of design and planning too often result in well-made but slightly antiseptic neighborhoods (Toolenburg 2). Still, the Netherlands is a land of opportunity for architects, including Snelder Architects, which stacked an office on columns above a warehouse/distribution facility for **KINZO TOOLS** (1). The office block is intended as an iconic image visible from the nearby A 30 freeway.

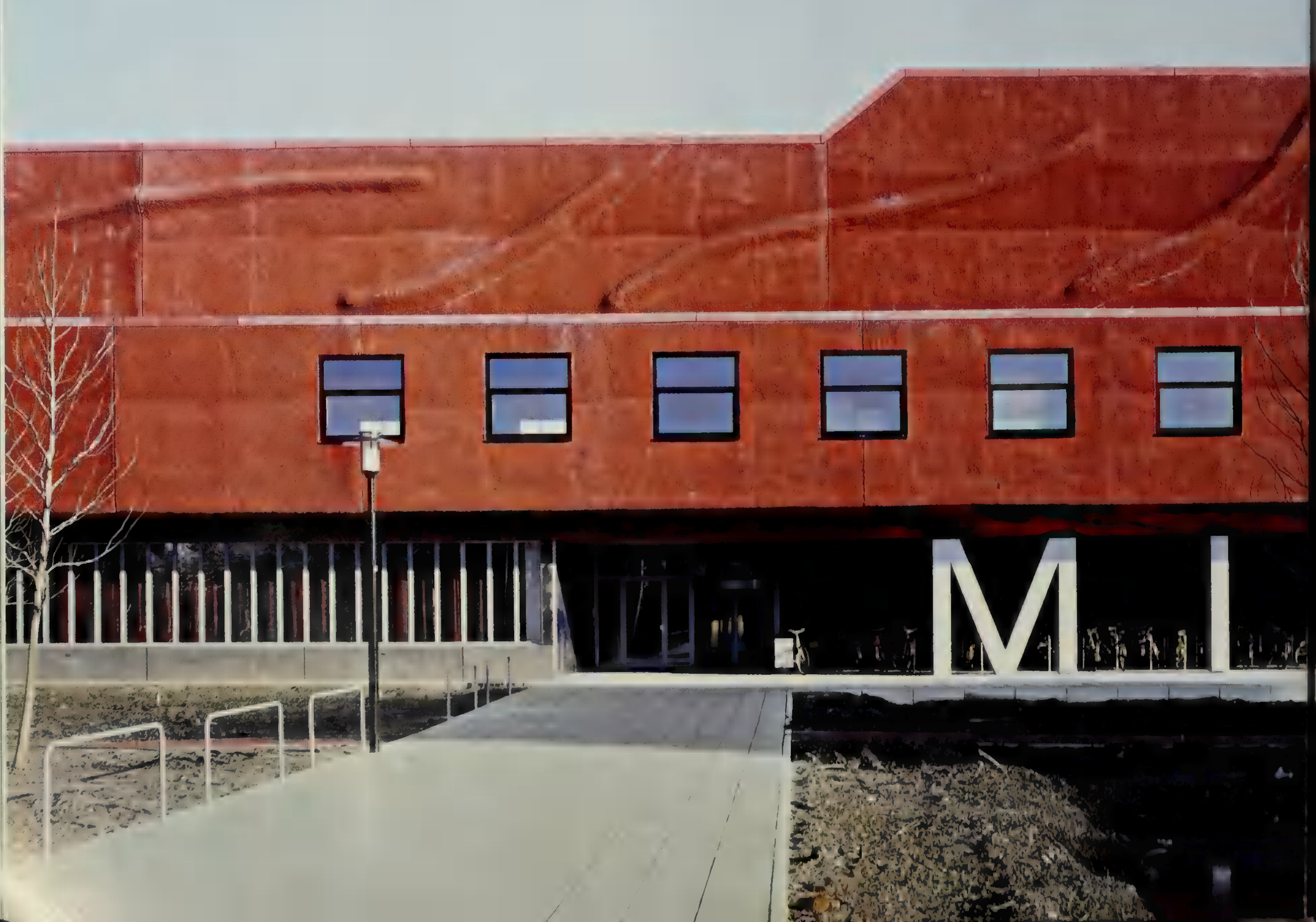
Designed by the Rotterdam office of Neutelings Riedijk for Holland's largest university in Utrecht, the **Minnaert Building** is an exercise in controlled anarchy. In a powerful architectural statement, the architects thumb their noses at many of Holland's multifarious rules and codes.

For example, the Minnaert Building has no real ground floor; it seems to float. It has no columns; the rainwater drips in from the roof, adding auditory sensation to visual. And, contrary to traditional educational facilities, all the corridors and circulation spaces are bundled into one big hall of 150 by 60 feet, with a pool stretching the entire length. And in spite of (or is it thanks to?) all this bad-boy stuff, it is environmentally conscious architecture.

Minnaert is the newest building in the Uithof, a campuslike satellite location on the periphery of Utrecht which opened in 1974 (the university itself dates from 1636). That era's slab-in-the-park approach didn't work well, however, and in 1986 the university adopted a master plan by Rem Koolhaas' OMA aimed at densifying the existing clusters. Since then, the university's director of housing has been working hard to transform the Uithof into a focal point of modern-day Dutch architecture, bringing in Van Berkel



Project: *The Minnaert Building*
Location: *Utrecht, the Netherlands*
Owner: *University of Utrecht*
Architect: *Neutelings Riedijk—Willem Jan Neutelings, Michiel Riedijk, Johnathan Woodroffe, Evert Crols, Jago van Bergen, Gerrit Schilder, Ruton Hamfelt, Chidi Onwuka, Joost Mulders*
Engineer: *ABT (structural)*
Consultants: *Adviesbureau Peutz & Associes (building physics); N. R. A. and F. B. U. (interiors)*
General contractor: *Aanneming Maatschappij J. P. van Eesteren*



MINNA R

NAERT

and Bos, Mecanoo, Wiel Arets, West 8, Rem Koolhaas, and Neutelings Riedijk.

Interior pond as a focus

Minnaert was commissioned as the central building of the earth-sciences cluster; the goal was to stimulate interaction within the department. The program includes labs, classrooms, a study hall, a restaurant seating 500, and staff offices. The ground floor is given over to labs and generous parking space for bicycles; most people enter the building at the level of the *piano nobile*, i.e., via the elevated walkways connecting all the earth-sciences buildings.

The building's most striking feature is also on the second floor: the central hall, with a stone water basin along the entire length of one wall and, in stark contrast, keyhole-shaped niches in red and purple along the other. Long troughs slant down from the ceiling and spill rainwater collected on the roof into the basin. (Whether dripping or pouring, the rainwater poetically reminds students of the forces of nature operating outside.) Spouts mounted on the wall return water to the basin. Steel bowls floating on tires are filled with seashells to neutralize the water's acidity.

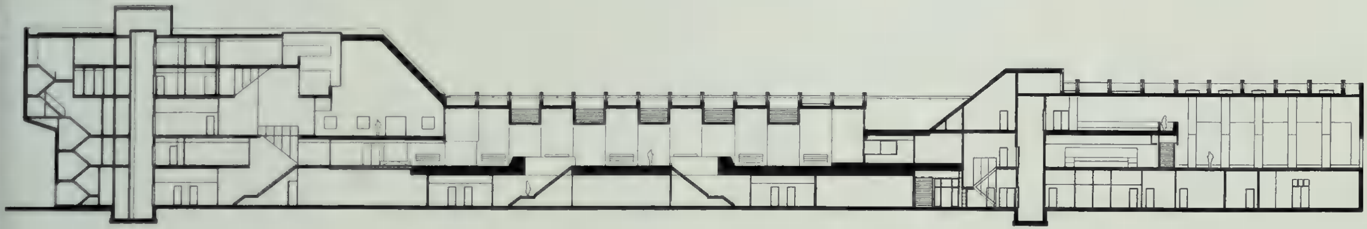
The basin offers a solution to the "cooling paradox," according to partner Willem Jan Neutelings. "Buildings are so well insulated nowadays that cooling is a bigger problem than heating," he adds. "Cooling machinery can easily eat up a third of your budget, and we thought that was a waste. Here, the water basin is the cooling machine. The water can cool the entire building in a day. And the only expense is an electric pump that moves the cool water through the building, up to the roof at night and then back to the basin." With a wry smile he adds: "We're not green out of ideology, but out of pragmatism."

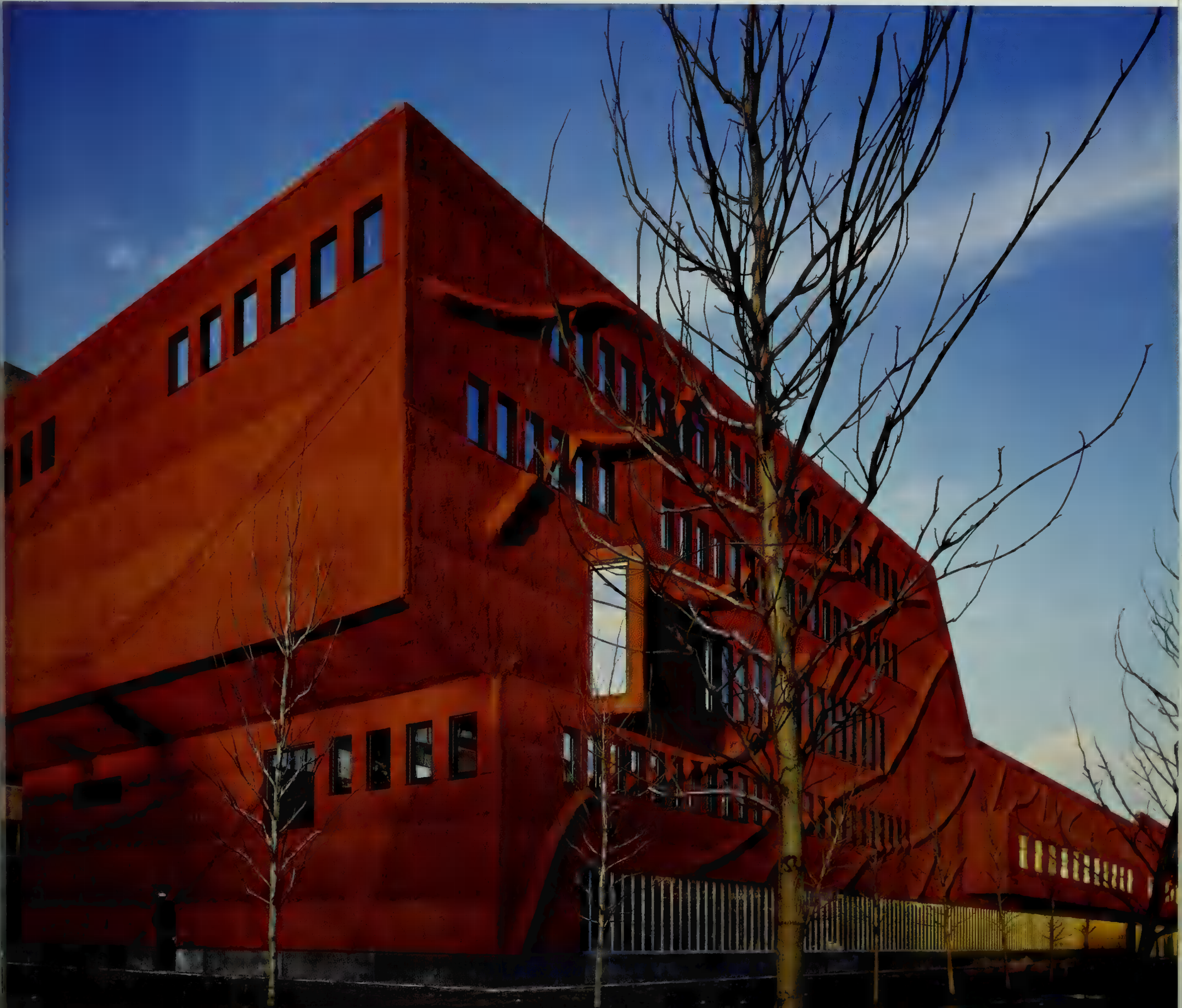
A "veined" exterior

The floor plan is a simple rectangle, but the building's skin is unusual in

The higher ends of the building, containing a variety of study areas, laboratories, and lecture rooms, spill into the central meeting space (section opposite), which has as its focal point a recycled-water pond.

THE 254 WINDOWS OF ONE ELEVATION HOLD UP THE EXTERIOR WALL, AS DO THE MONUMENTAL "LETTER COLUMNS." HERE, THE BUILDING NOT ONLY BEARS ITS NAME, THE NAME BEARS THE BUILDING.





both color and texture. The earthy rust-brown exterior—sprayed concrete to which an iron pigment was added—is covered with a curious pattern of sinuous welts that writhe their way across the surface, even across the windows, like determined earthworms. The shapes were formed over metal armatures applied to the building's concrete frame.

"TO MY MIND, THAT CALVINIST IDEA OF HONESTY IN PLAN IS A FAKE," SAYS NEUTELINGS. "IT IS MORE IMPORTANT TO IMBUE THE FACADE WITH MEANING THAN TO SHOW WHAT'S INSIDE."

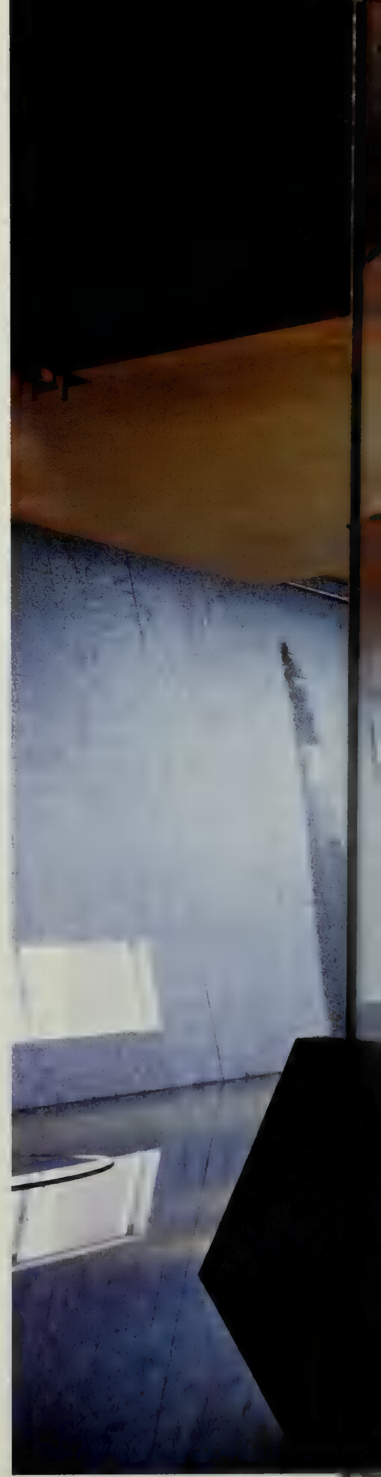
The facade is supported by two structures that don't look the part: the 254 steel window frames on the one side and the steel "letter columns" forming the name of the Utrecht University's Belgian-Dutch astronomer (1893–1970) on the other. Here, it is not the building that bears the name, but the name that bears the building.

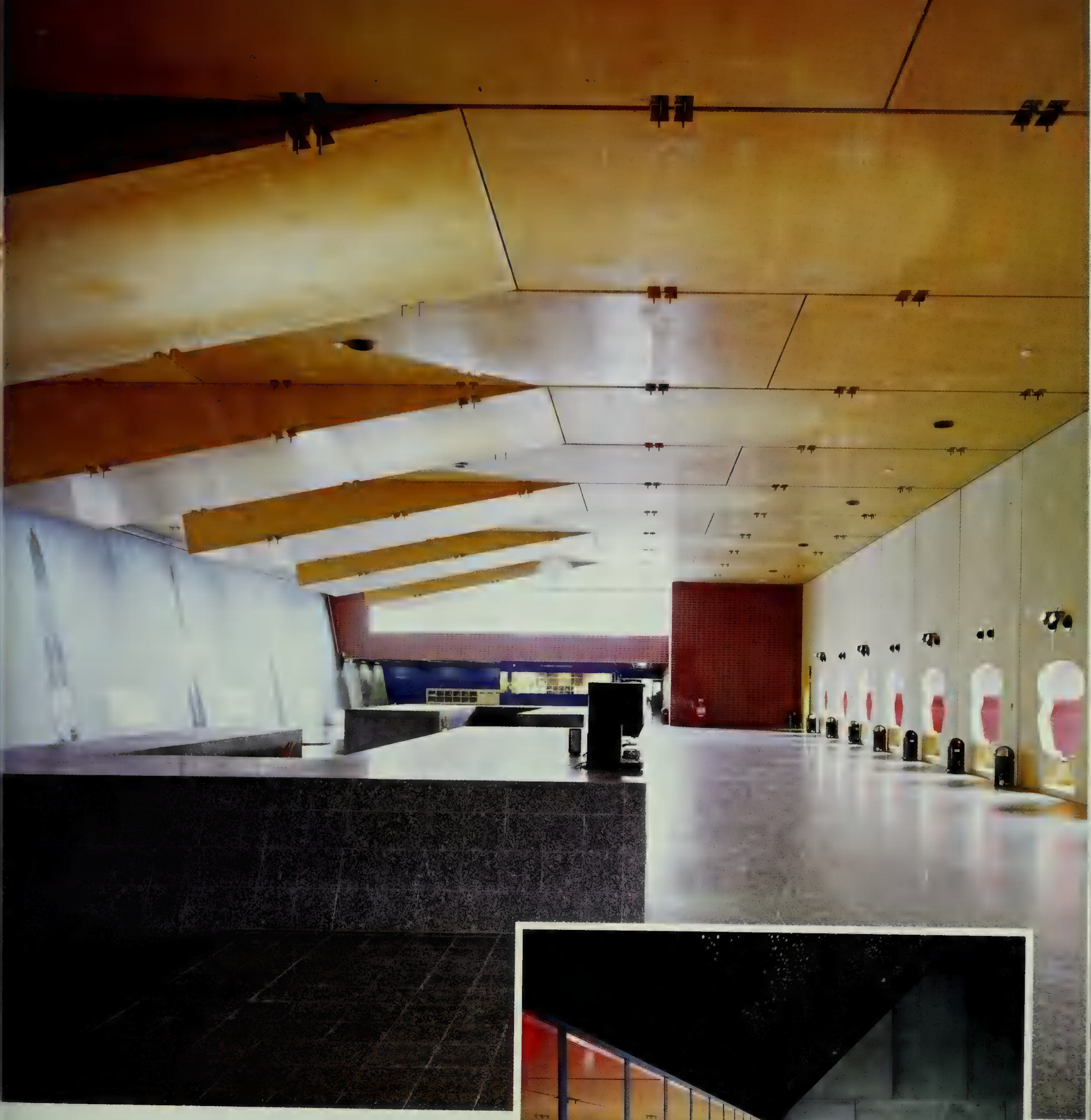
Sense and sensuality

According to Neutelings, the design for Minnaert gets teachers and students to interact by prickling the senses. "Most buildings are aimed at one kind of person and are the same throughout. Near the stone basin it is cool, even cold, but the keyhole-like niches along the other wall are warm, in color and in temperature. All the rooms are different, too: one has a blue wall and even a blue (black) board. The study hall has a ceiling full of stars; the doors of the offices all bear their own distinctive pattern of white, black, and gray rectangles. We wanted to create a building that changes as you move through it."

Neutelings, who is 41 and recently returned to Rotterdam from a guest professorship at Harvard, has emphatically broken with the Modernist tradition that requires "legibility" of a building's interior organization based on its exterior. From the outside of the Minnaert, there is not even a hint of the large hall with the water basin. "To my mind, that Calvinist idea of honesty in plan and construction is a fake," he states. "A facade is by definition the wall demarcating public space. It is more important to imbue that with meaning than to show what is inside. All you get otherwise are boring, predictable facades. In a lot of our buildings there is a big contrast between inside and outside. I am not interested in rows of windows, but in the larger scale, in the iconographic character of the building." ■

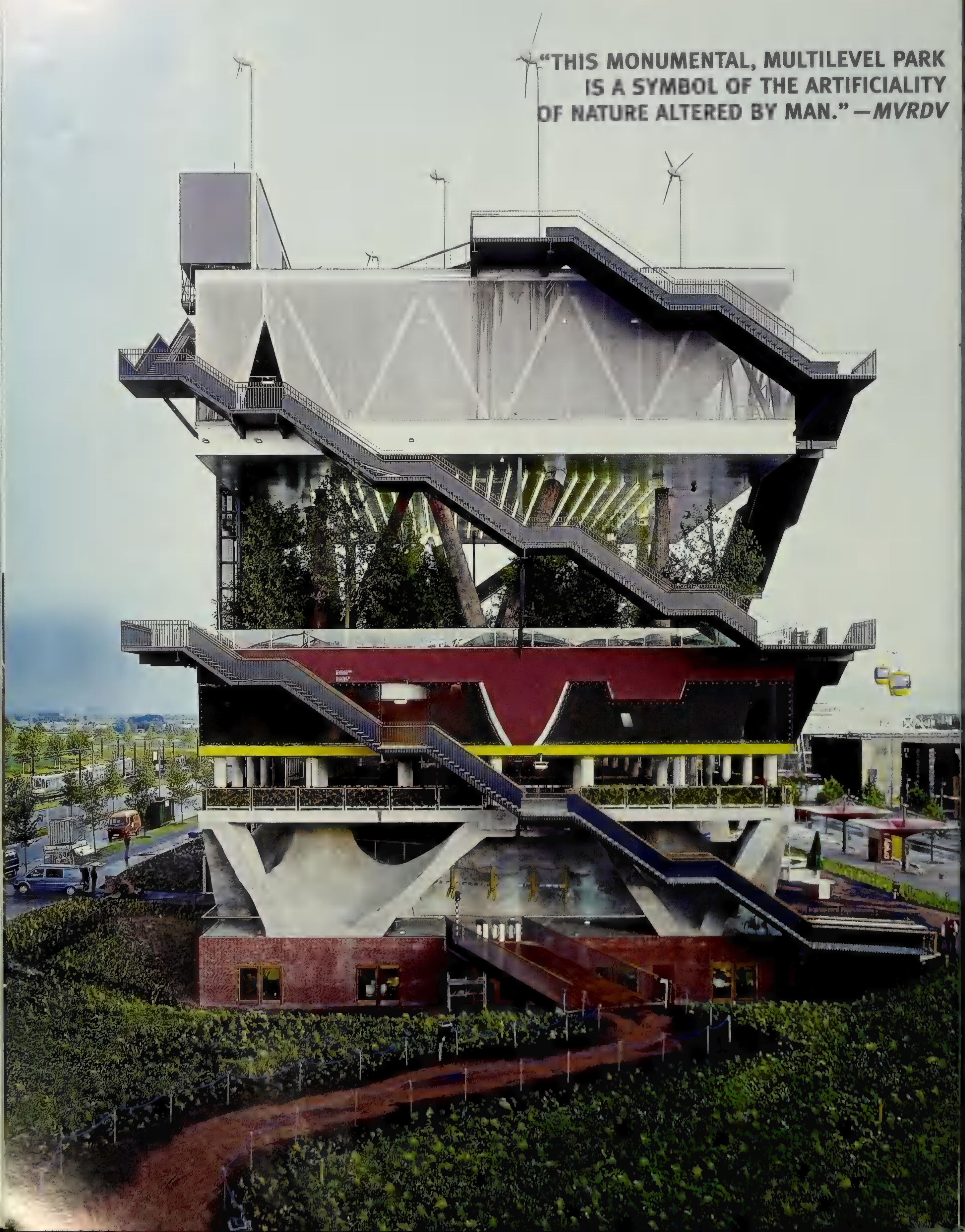
Author Tracy Metz is RECORD's correspondent in Holland.

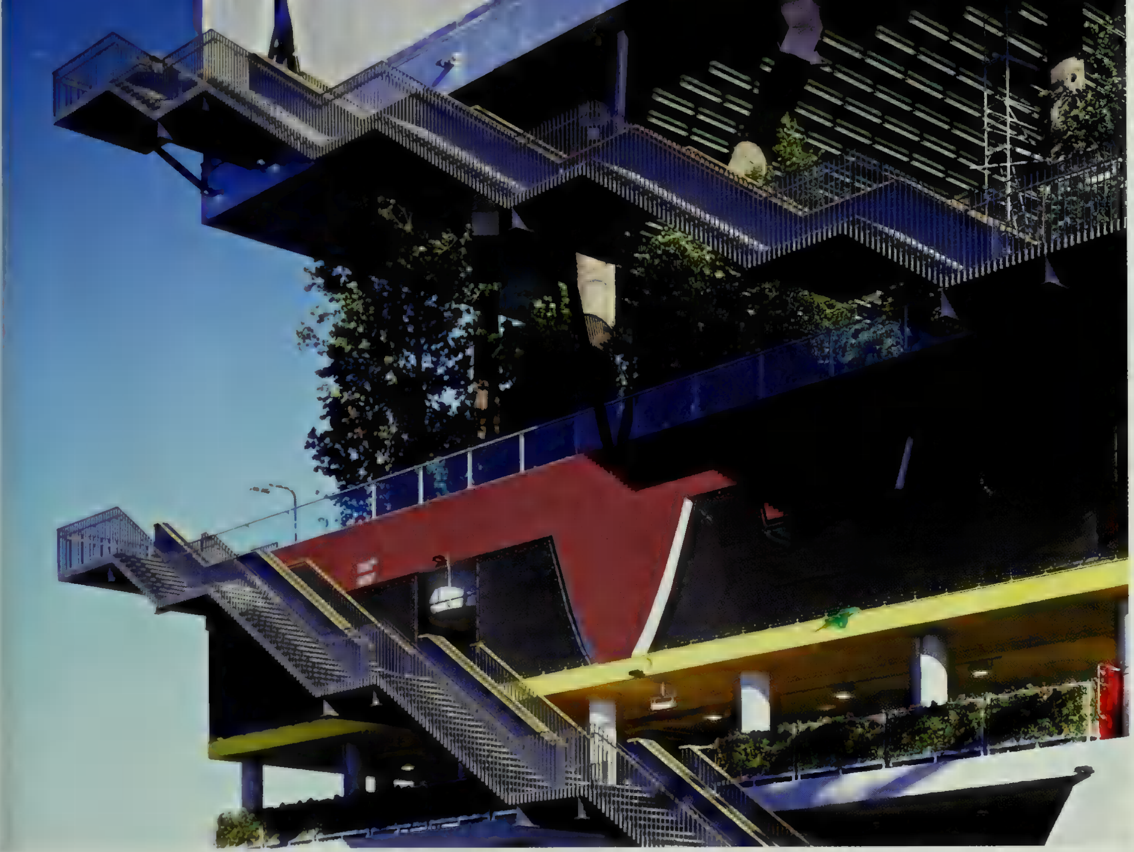




The water level in the basin that runs through the central gathering space of the Minnaert Building (left in photo above) rises and falls depending on the flow of rainwater. A study space overlooks the central hall (right). Skylights bathe columns in daylight within the cafeteria (opposite bottom), among the many elements designed to awaken the senses.

"THIS MONUMENTAL, MULTILEVEL PARK IS A SYMBOL OF THE ARTIFICIALITY OF NATURE ALTERED BY MAN." —*MVRDV*

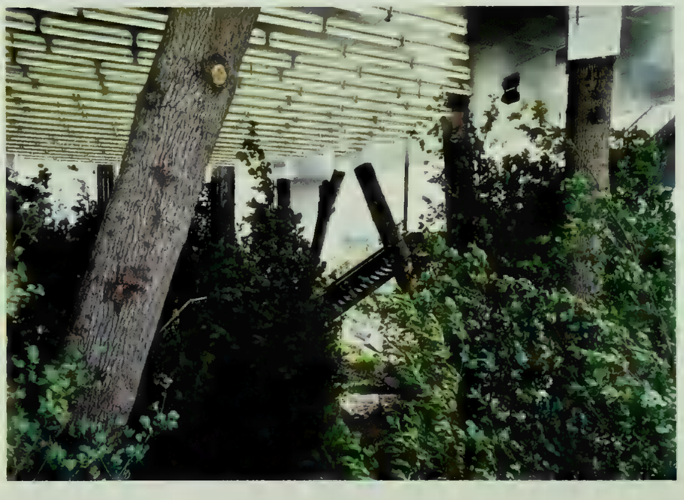




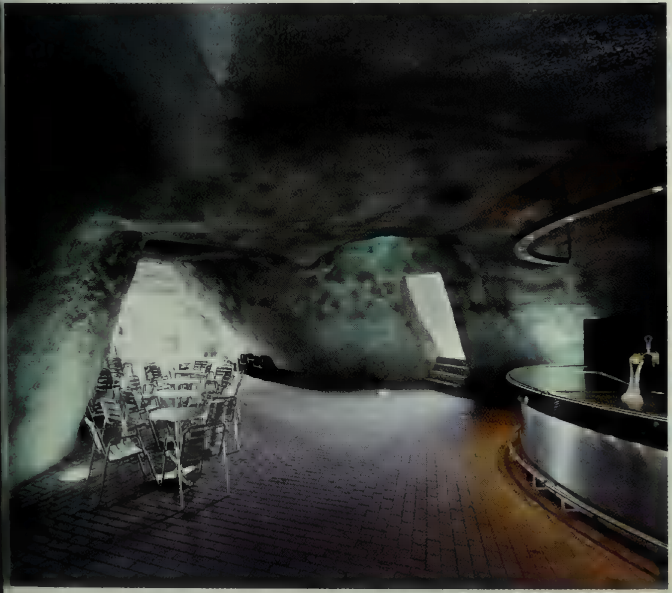
Heat emitted by spectators in an auditorium warms a "forest" above it (4). Visitors take refreshment within lower-level "dunes" (3).

2

4



3



Like a parade float on steroids that was abandoned by its tenders, the **Dutch Pavilion at Expo 2000** seems to have run aground a couple of hundred miles from home on the plains of Hanover, Germany (1, 2). Architect MVRDV built a lighthearted construction that recognizes the unadmitted kitsch nature of these affairs without ignoring the nation's desire to parade its technological prowess.

Titled *Holland Creates Space*, it takes the historical idea of the Netherlands as a landscape recovered from the sea and stacks it in a 130-foot-high multilevel sandwich set in a field of flowers. Windmills on the roof propel cooling breezes over a basin of rainwater while generating power. Water from the roof is used to flush toilets and to irrigate the cooling forest one level down. Wastewater, passed through a biomass filter, is returned to the roof. *James S. Russell, AIA*

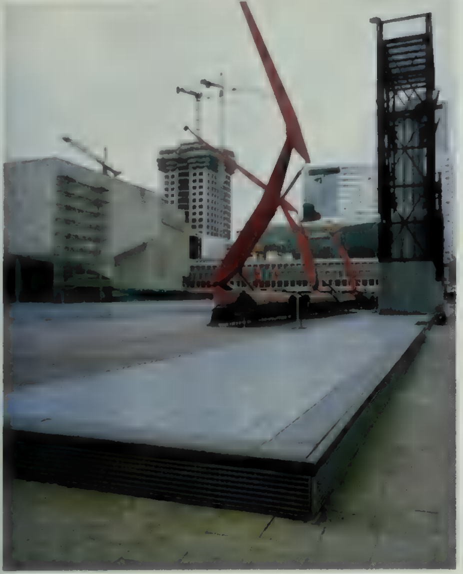
1

2

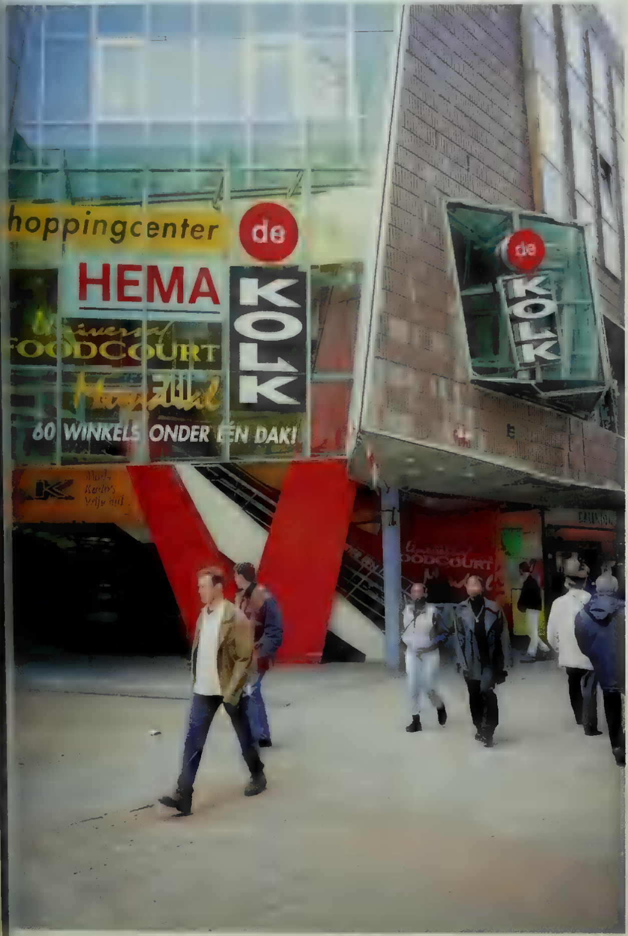
THE NATION HAS UNWOUND MANY OF THE COMFORTING STRICTURES OF THE WELFARE STATE, ALTERING THE CONSENSUS MODEL OF PLANNING.

Dutch work today is steadily more attuned to changes in its society and economy. Smaller households and a desire to live in the city spurred the redevelopment of **Java Island** (foreground in 1) and **KNSM Island** (background)—once devoted to shipping—as high-density housing. The earlier Java project, by Jo Coenen, offers larger, more forceful architectural gestures, while KNSM, a design by S. Soeters just reaching completion, opts for a smaller-scale streetscape laced by bits of canal. Tourism is also important to the Dutch economy. A careful Modernist solution would likely seem radical in American preservationist circles. But the actual house in which **Anne Frank** wrote her famous diaries (canal house at far left in 2 and interior, 3), among the Netherland's most popular destinations, is far too small to accommodate the crush of visitors. Architect Bentham Crouwel decided not to try to emulate the existing house in adding myriad visitor services, but to quietly evoke the institutional quality of a museum. *J. S. R.*

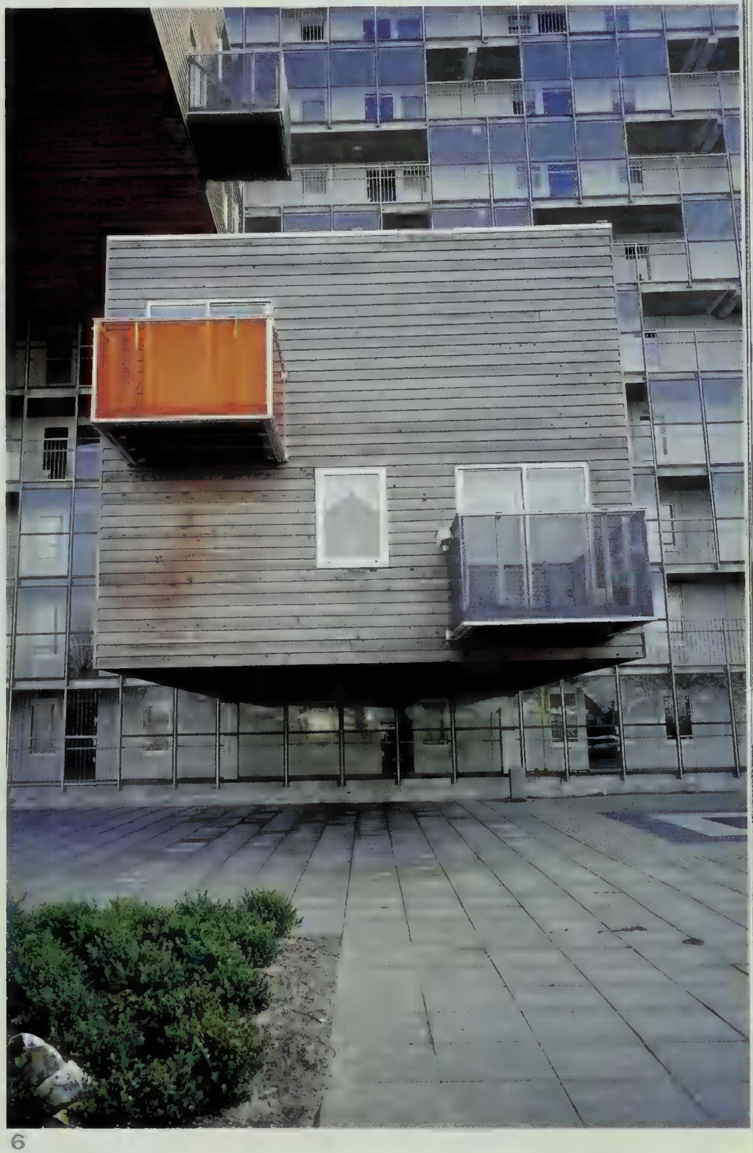
3


4

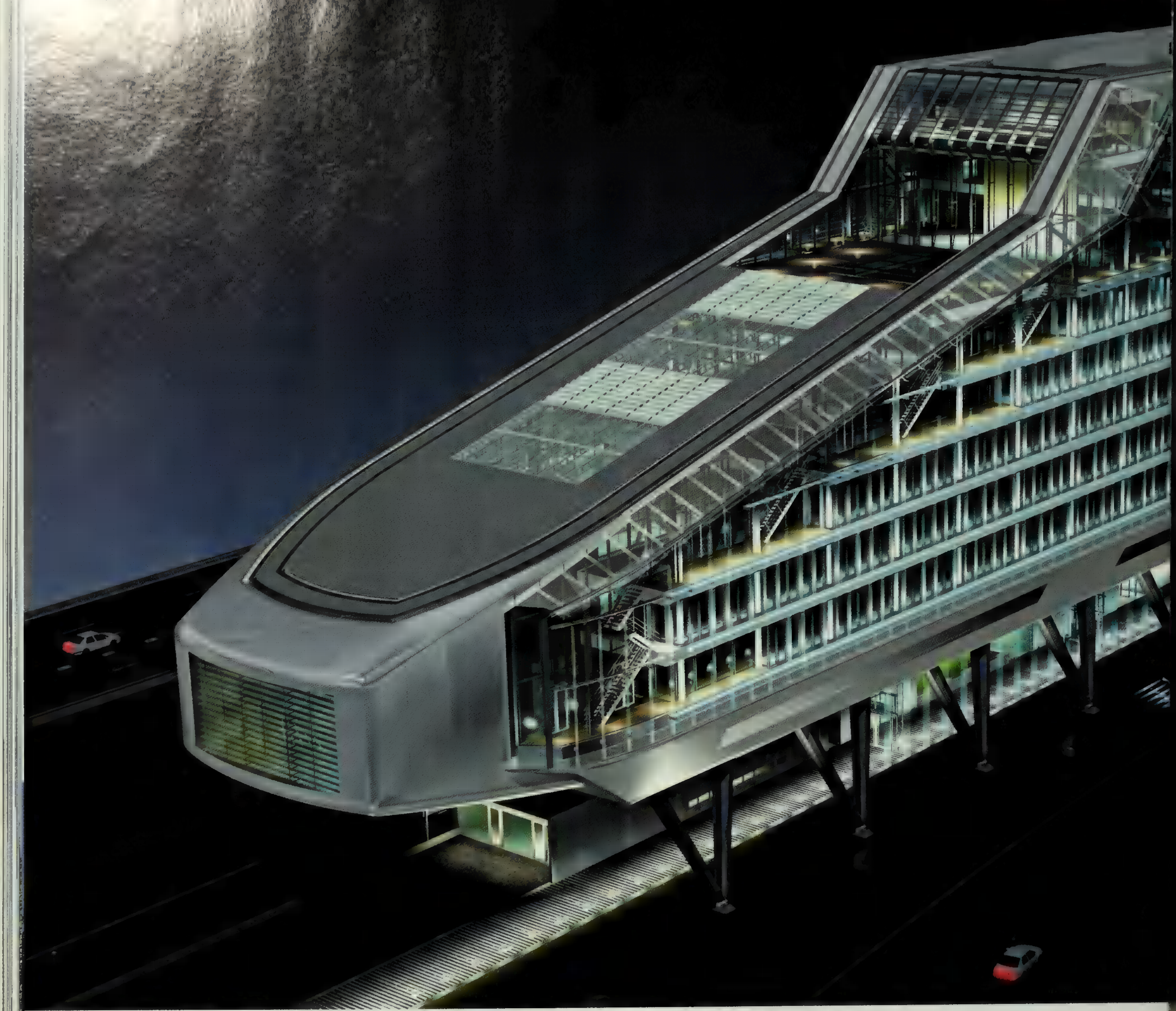
TODAY'S DUTCH ARCHITECT MAY COMBINE A PRAGMATISM TOWARD COMMERCIAL CULTURE WITH AN IRONIC, BUT NOT CYNICAL, DISTANCE.



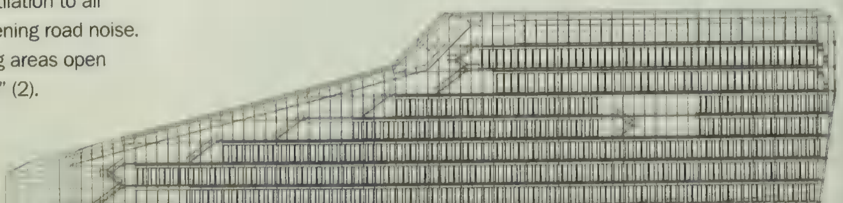
5


6

Over the last decade a much gutsier, more expressionistic strain of architecture has rapidly emerged in Holland. Much of the work looks askance at the contradictions of the safe "moral" state that survives in the amoral, cutthroat, media-saturated world economy. These photos, taken for the book *Mart Stam's Trousers*, look ironically at today's pretensions. The **de Kolk Shopping center** (4), by Ben van Berkel, is shown somewhat desperately clad in commercial messages. It has since closed. Urban space has been rethought along science-fiction lines by West 8, a young landscape architect. Red-painted light masts bend and hover over the **Schouwburgplein**, a public square in downtown Rotterdam, like hydraulic brontosaurus heads at feeding time (5). Lights, sounds, and vapors rise from an underground parking garage through openings in the metal-plate surface, titillating visitors. Architect MVRDV's housing units stand like drawers of a filing cabinet left open, cantilevered 40 feet out of the typically prim social-housing slab in the **WOZOCO housing project** in Amsterdam (6).



You've got to strive to make an impression in an information-saturated economy, suggest Meyers & Van Schooten, architects for the **headquarters for ING bank,** which now appears in advertisements. Located at the very edge of one of Holland's major highways, not far from Schipol Airport, the bank marries ecological technology and workplace amenity. Fresh air from the side of the building that faces away from the highway (1) is drawn up into a void between two glass walls to supply natural ventilation to all offices, while screening road noise. Numerous meeting areas open beneath the "nose" (2).



1

HOLLAND ARCHITECTURE *continued from page 130*

ward of the state, which became an export-oriented, private-sector business on the wings of subsidies for design competitions, conferences, publications, and the Dutch Architectural Institute. (Notable overviews are *20th-Century Architecture in the Netherlands* by Hans van Dijk and *20th-Century Urban Design in the Netherlands* by Hans Ibeling, both published by NAI).

But in a nation that has had a government board to assure the "visual decency" of buildings for almost a century, the umbilical of state involvement has yet to be severed. The Netherlands is in the midst of an enormous government-sponsored, rigorously planned effort to build a million new units of housing by 2010, impressive for a nation with about the same population as Florida. Because much of the new housing is intended to offer greater amenity to the nation's rising number of smaller households, there is an ongoing debate about whether state-sponsored neo-Modernism should give way to greater individual expression. Why should architects employed by the government preside over the architectural appearance of the Netherlands, asks Carel Weeber, a dissident in Holland's emerging taste debate. Housing production should reflect consumer desire to a greater extent, say theorists Alexander Tzonis and Liane Lefivre. They recognize that doing so would inevitably lead down the Garden City path to the romantic imagery of homebuilders in America, who prefer to derive their designs from marketers and focus groups rather than from architects.

FOR NOW, THE DUTCH SEEM LITTLE INCLINED TO ADOPT THE INDIVIDUALISTIC, SELF-AGGRANDIZING CULTURE OF AMERICA—HOWEVER SUCCESSFUL IT HAS BEEN.

And yet, for now, the Dutch seem little inclined to adopt the individualistic, self-aggrandizing, and privatized culture of America, however well aligned it may be with the ever-changing currents of global capital. The Netherlands recognizes that cities with amenity and well-coordinated infrastructure will successfully compete in less protectionist European and world markets.

Aesthetic pioneers or pop-culture poseurs?

Dutch architects seem more attuned than ever to the contradictions of their own situation: they now tinge their socially responsible work with influences derived from world flows of multimedia. *Mart Stam's Trousers: Stories from behind the Scenes of Dutch Moral Modernism,* a book by Crimson, an architectural firm that practices largely in a theoretical mode, posits Winy Maas, of MVRDV, as standing "for the typical Dutch architect, with a certain pragmatism regarding . . . suburbanization, automobility, pop culture; and a certain coquettishness about his Dutchness," a pose that is "slightly ironic," but never "cynical."

The embattled American designer might well envy the enormous artistic freedom and public respect Dutch architects enjoy. But Dutch architects today may be playing with fire. In the 1990 lecture, Koolhaas noted with approval, "There is a major stream in modernity that has no concern for people, that isn't humanistic, seeing itself as a part of a whirlwind that spares nothing." In admiring that free but nihilistic universe, the Dutch architect is like the adolescent confronting drugs for the first time: Can I get the thrill without the consequences? If the consequences include depriving Dutch architects of the public respect that has come from subsuming the self-expressionistic urge to the larger good, then they'll suffer consequences the American architect—much lower on the cultural totem pole—knows well. There's no heavy planner's hand in the U.S., but architects spend their days trying to get the client, perpetually driven by "shareholder value," to approve a material slightly more inspired than drywall or synthetic stucco. ■

Passing through a major airport on your way?

Been there...

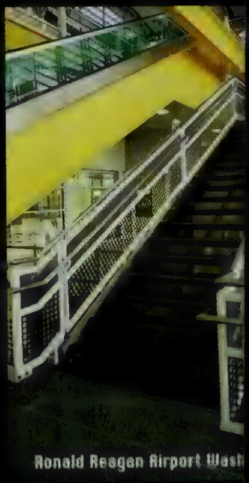
Wausau Tile

O'Hare International Chi

Ronald Reagan Airport Washington, DC

La Guardia Airport New Yo

O'Hare International Chicago, I


Ronald Reagan Airport Wash

Ronald Reagan Airport Washington, DC

... done this!

Terrazzo Tile

and

Precast Terrazzo

Richmond International Rich

Columbia Metro Airport Columbia, SC

Columbia Metro Airport Columbia, SC

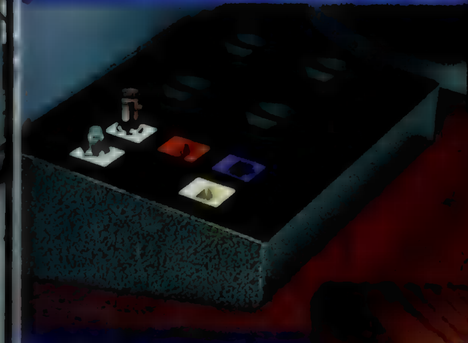
Wausau Tile
P.O. Box 152
Wausau, WI 5440
800-388-872
Fax 715-359-7
www.wausautile

CIRCLE 51 ON INQUIRY CARD

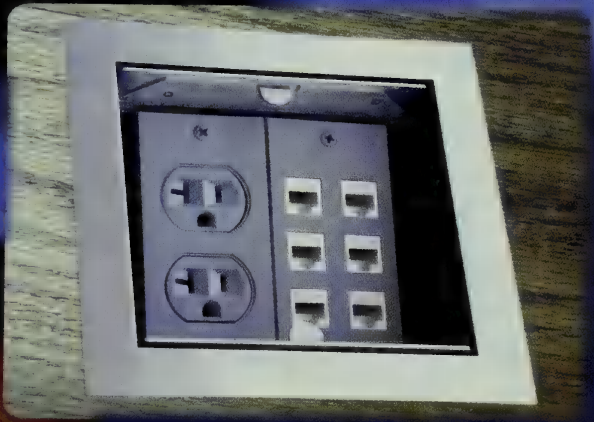
smi
IDER MANUFACTURING INC.
ISO 9002 REG. COMPANY

FUNCTIONAL ELEGANCE
BRINGING VOICE, DATA AND
ELECTRICAL CONNECTIONS
TO THE DESK AND
CONFERENCE TABLE

MARQUIS-3

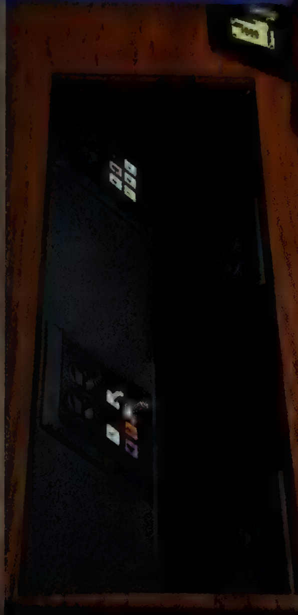


NCORD-3



SHADOW-2 (covers open)

PHANTOM-4 (covers open)



MIRAGE-4

PHANTOM-2 (cover open)

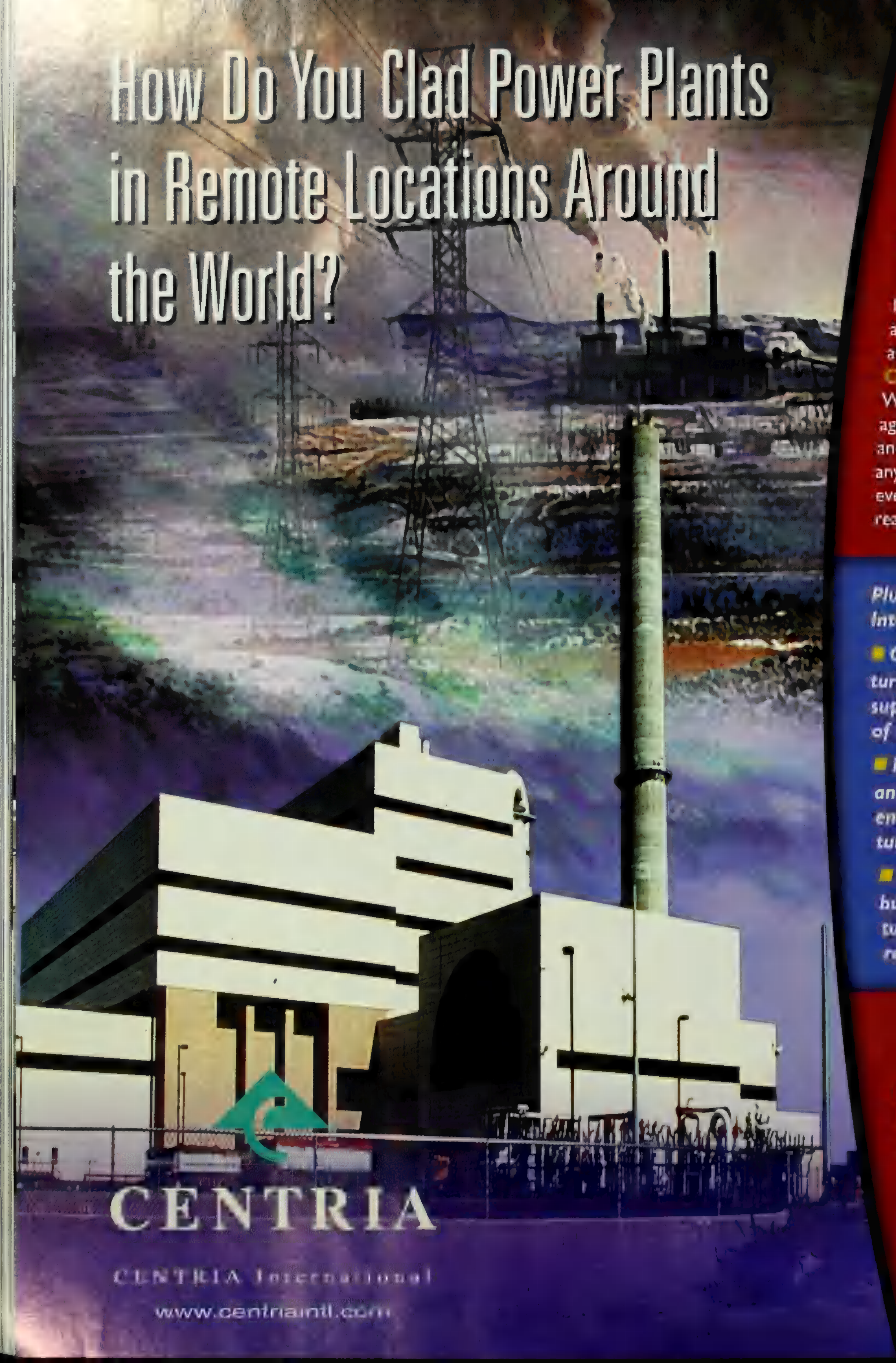
MIRAGE-2

or a Complete Catalogue
hone: (250) 765-2616
ax: (250) 765-2614

Visit Our Website At
www.spidermfg.com
sales@spidermfg.com

CIRCLE 52 ON INQUIRY CARD

pider Manufacturing Inc. #5 - 364 Lougheed Rd. Kelowna, B. C. Canada V1X 7R8


How Do You Clad Power Plants in Remote Locations Around the World?

Ask CENTR
Internationa

Not all building projec
are in easily accessible
areas. That's why there
CENTRIA International
We offer products man-
agement, technical supp
and project supervision
anywhere in the world –
even the most difficult to
reach locations.

Plus, CENTRIA International offers:

- *Customized architec-*
tural and engineering
support for every phas
of a project
- *High performance w*
and roof systems for b
environmental and str
tural challenges
- *A wide variety of*
building products for
tually any aesthetic
requirement

Call for advice.
CENTRIA Internatio
Headquarters
Phone: +1-412-299-8
Fax: +1-412-299-805
e-mail:
info@centriaintl.co

CIRCLE 53 ON INQUIRY C

CENTRIA
CENTRIA International
www.centriaintl.com

AIRPORTS

The Sky's the Limit

EVERYTHING ABOUT AIRPORTS IS GETTING BIGGER: SIZE, PROGRAM, AND FUNDING. CAN ARCHITECTS COPE WITH BALLOONING DEMANDS AND STILL MAKE THESE PLACES MEMORABLE?

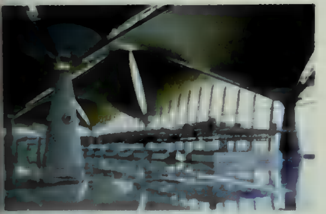
By Thomas Mellins

Often difficult to reach in a timely fashion and hard to leave fast enough, the contemporary airport reflects conflicting currents in our culture. Like the state-of-the-art planes they accommodate, airports are machines for transporting people and goods; efficiency constitutes the primary measurement of their success. At the same time, airports, like the grand 19th- and early-20th-century railroad stations they have in large part replaced, are symbolically rich gateways that reveal our need to create lasting expressions of civic pride.

"Few building types so profoundly fascinate and frustrate people," says Steven M. Reiss, AIA, chairman of architectural services at HNTB Architecture, a firm based in Kansas City, Missouri, that has been responsible for more than 100 airport projects over the past 50 years. "Despite their importance in our lives, however, airports remain fundamentally overlooked and undervalued in aesthetic terms," notes Reiss. Particularly for smaller cities, an airport can be, as John Zukowsky, curator of architecture at the Art Institute of Chicago, puts it, "their temple, their most important public building."

Today, airports are burgeoning in both number and size. They handle more people than ever before. According to the U.S. Department of Commerce, in 1990, there were about 465 million airplane passengers in this country; by the end of the 1990s the number had grown to nearly 600 million. Despite often constricted building sites and relatively limited amounts of available funding, every one of the 25 busiest airports in the United States has recently undergone, or is currently undergoing, a major expansion or renovation. The Airports Council International of North America, a trade group based in Washington, D.C., estimates that an average of $7 billion was spent annually on airport construction in the late 1990s, up from $4 billion in the 1980s. The group says the figure may exceed $10 billion a year in the coming decade. And the explosive growth of airport construction is by no means an exclusively American phenomenon, with facilities being built and expanded throughout Europe and Asia. China alone is currently renovating or planning to renovate 40 airports, and 20 new ones are either in design or under construction.

The World Bank asserts that roughly $350 billion would be required to handle the increased airport demand projected through the year 2010. Though per-square-foot costs for airline terminal buildings are low relative to other building types (about $85–$90 for a regional airport



1.

Kuala Lumpur, Malaysia

At nearly 4.4 million square feet, this giant new airport by Kisho Kurokawa is a major piece in Malaysia's plan to modernize. And this is just Phase I.

2.

San Diego

A new terminal designed by Gensler and SGPA finds inspiration in the city's industrial heritage and its balmy clime.

3.

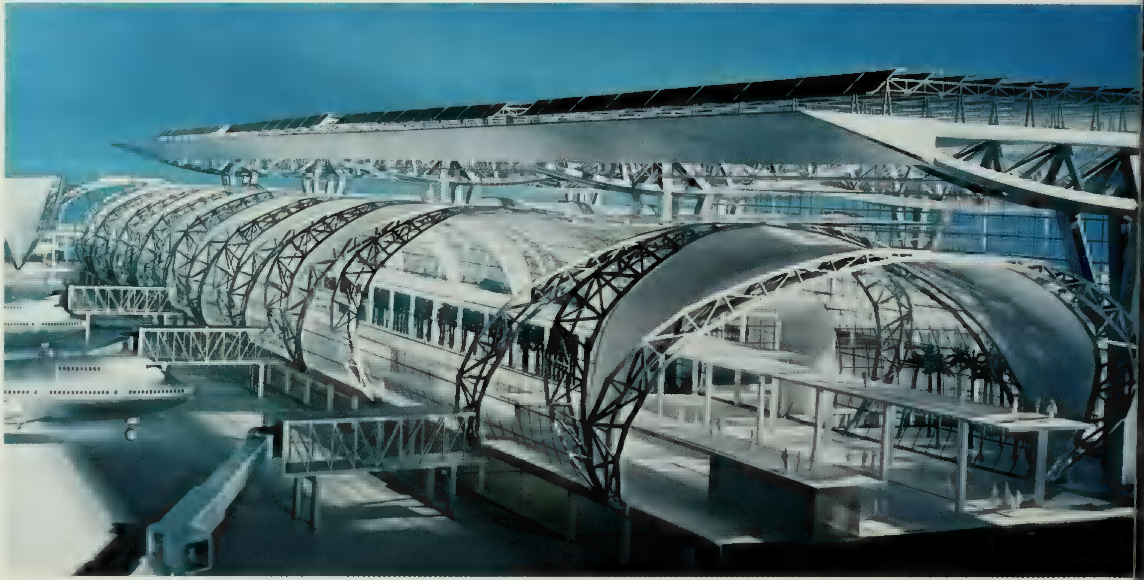
Shanghai, China

Paul Andreu and Aéroports de Paris bring their design expertise to a new airport serving the rapidly emerging Pudong business district.

WWW *For information on the overburdened air transportation system, see Welcome to Gridlock, All Flights Delayed" in the October 25, 1999, issue f* Aviation Week and Space Technology *or visit the publication's Web site at:* **ww.aviationnow.com**

Thomas Mellins, an architectural historian, is the coauthor of New York 1880, New York 1930, *and* New York 1960.

The $1.1 billion Inchon International Airport (left) in Seoul was designed by Fentress Bradburn Architects and will open early next year.



A roof trellis with louvers protects tubular concourses and a rectangular terminal building at the new Bangkok International Airport (right), designed by Murphy/Jahn and set to open in 2003.

and twice that for a major facility in the U.S., compared with $250–$300 for museums), the immense scale of the projects nonetheless sends budgets into the stratosphere. To cover these costs, private developers and public-private partnerships are playing an increasingly important role in the construction of airports and in their operation, both formerly the near-exclusive domain of government. Privatization, widespread in Europe, is becoming more common in the U.S., although it is controversial and can lead to significant battles for control.

New money for projects around the country

U.S. government funding will soon become more plentiful. In April 2000, President Clinton signed the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (commonly called AIR 21), which allocates $40 billion over the next three years for airport construction and airspace infrastructure improvement. Additionally, the bill allows airports to raise the ceiling on the passenger facility charge on every airline ticket by $1.50. It allows for an increase of up to 60 percent in available funds, beginning in 2001. AIR 21 promises to have a profound impact not only on large cities such as New York, Chicago, Boston, and Washington, D.C., but also on smaller ones like Buffalo, Palm Springs, Calif., and Austin, Tex., where recent airport projects, by Kohn Pedersen Fox Associates, Gensler, and PageSoutherlandPage with Lawrence W. Speck Design, are also critical to growth.

For an architect, designing an airport presents particular challenges. While airport commissions are considered plum jobs—in large part because, as Zukowsky succinctly states, their long duration—sometimes up to two decades—renders them "recession busters," time is not always on the architect's side. Architects designing airports are perpetually planning on the basis of soon-to-be-outdated realities. According to Charles Dalluge, vice president and managing principal of the Washington, D.C., office of Leo A Daly, an architecture and engineering firm that has designed more than $1 billion in airport facilities throughout the world since 1994: "When it comes to airport design, the only thing you can absolutely count on is change." Helmut Jahn, FAIA, chief executive officer of Murphy/Jahn in Chicago, who has been designing airports since he began work on Chicago's O'Hare International Airport in 1982, notes, "It is easy to design for what you know; it's very much more difficult to design for what you don't know." Jahn, whose expansion of the FKB Airport serving the Cologne/Bonn area in Germany is scheduled to begin operation in September and whose new Bangkok International Airport is scheduled for completion in 2003, states, "The amazing thing is how well some of the comparatively old airports still work. Building at a scale that exceeded then-current need has helped. The key is a good building diagram and sufficient space for expansion." O'Hare, originally intended t serve 20 million passengers, has been extensively expanded, including th completion of Jahn's United Airlines Terminal One Complex in 1988, and now accommodates 80 million passengers a year.

In addition to an ever-growing number of passengers, anothe factor dramatically affecting the design of airports is the increasingly larg size of aircraft. As planes get bigger, it is more difficult to pack them in a the gates. This results in a call for detached passenger holding facilities which in turn require intra-airport transportation systems. And airline want to use a gate as many times per day as possible. As connecting time between flights shorten, efficiency of passenger movement throughout a airport becomes critical.

Still another change affecting the planning and design of air ports is an intensified search for sources of revenue. One highly visible result of this trend is the growing number of on-site retail and entertainment concerns. Indeed, today some airports incorporate what amount to suburban-scale shopping malls. Modest food concessions and newsstands have given way to restaurants operated by celebrity chefs such as Wolfgang Puck, branches of high-end stores previously located in the central city or upscale suburb, and fully equipped health clubs.

Bulging programs pose design challenges

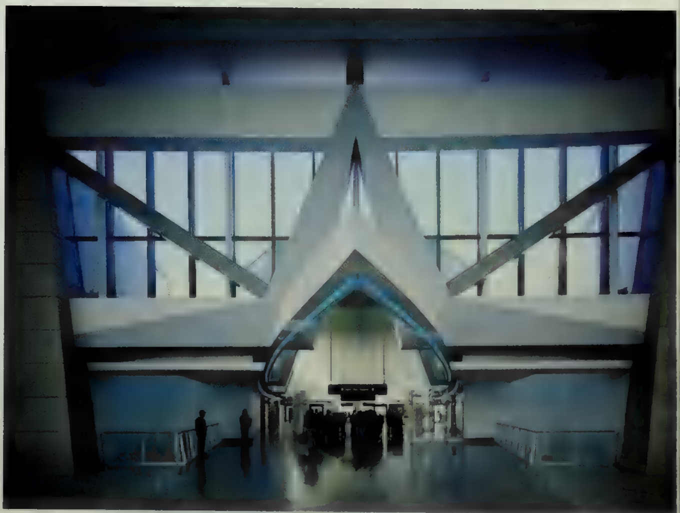
To the architect, the integration of large amounts of retail space and facilities such as high-end hotels and business meeting centers can be problematic. Increasing the size of an airport makes efficient pedestrian movement more difficult. Furthermore, what Jahn calls the "proliferation of commercial paraphernalia" can dilute the architect's scheme. Whatever the aesthetic challenges, however, extensive airport-based retail seems here to stay, not only because it makes money, but because it responds to consumer demand that an airport be a place of entertainment. Due to new ticketing and security procedures, the time spent in airports is, despite improved aircraft technology, increasing. In some airports, it is not unusual to have up to four hours of what people in aviation call "dwell time." Travelers require activities that are fun and memorable—picking up a newspaper and running for a flight no longer suffice.

As people spend more time in airports, terminal buildings, once powerful reflections of our collective mobility, must serve as antidotes to the deracination blues. The selection of building material, appropriate art and signage, themed retail, and the inclusion of views outdoors can help root a traveler in a particular location. Additionally, references to local architectural vocabularies can help establish a sense of place. Inchon International Airport, built on a man-made island in the Yellow Sea to serve Seoul, incorporates traditional Korean elements within a modernist scheme; it was designed by Fentress Bradburn Architects, which is also working on the Doha International Airport under construction in Qatar.

With flying now an accepted element not only of long trips, but also weekend getaways—and even some people's weekly commutes—it inevitably risks seeming commonplace. And this, in turn, places a greater burden on the architect. As Curt Fentress, AIA, a principal at Fentress Bradburn Architects, puts it: "It's key to put the excitement of air travel, today so often taken for granted, back into the architecture of airports. Whether it be with a memorable rooftop silhouette or a large room flooded with light, an airport's design, if it is to successfully communicate to the public, must connect to the thrill of taking to the skies." ■

Gensler, Lawrence W. Speck Design, and PageSoutherlandPage built the Austin-Bergstrom International Airport on the site of an old air force base in Texas.

Teflon-coated fiberglass canopies help create shaded outdoor rooms at the new 11-gate concourse and terminal expansion at Palm Springs Airport, designed by Gensler.



A 285,000-square-foot facility designed by KPF, Cannon, and William Nicholas Budouva and Associates replaced two old terminal buildings at Buffalo Niagara International Airport.

Kuala Lumpur International Airport
Malaysia

1

KISHO KUROKAWA WEAVES TOGETHER NATURE AND TECHNOLOGY BY DESIGNIN A FOREST OF COLUMNS AND WRAPPING BUILDINGS AROUND TREES.

By Thomas J. Campanella

Project: *Kuala Lumpur International Airport, Kuala Lumpur, Malaysia*
Architects: *Kisho Kurokawa Architect & Associates and Akitek Jururancang*
Engineers: *Ranhill Bersekutu (mechanical); Sepakat Setia Perunding (civil and reinforced-concrete structural design); Pacific Consultants International (steel structure)*
Consultants: *Arklandskap (landscape); GK Sekkei and Urn Kok Wing Integrated (signage)*
Project manager: *Pacific Consultants International*

Size: *4,382,000 sq. ft. (total). 1,842,000 sq. ft. (terminal); 997,000 sq. ft. (contact pier); 1,543,000 sq. ft. (satellite building)*
Completion date: *March 1998 (phase 1)*

Sources
Curtain wall: *Pilkington, MSG Glazing*
Steel windows : *YKK Architectural Products*
Interior ambient lighting: *Matsushita Electric*
Elevators: *Schindler*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

Program

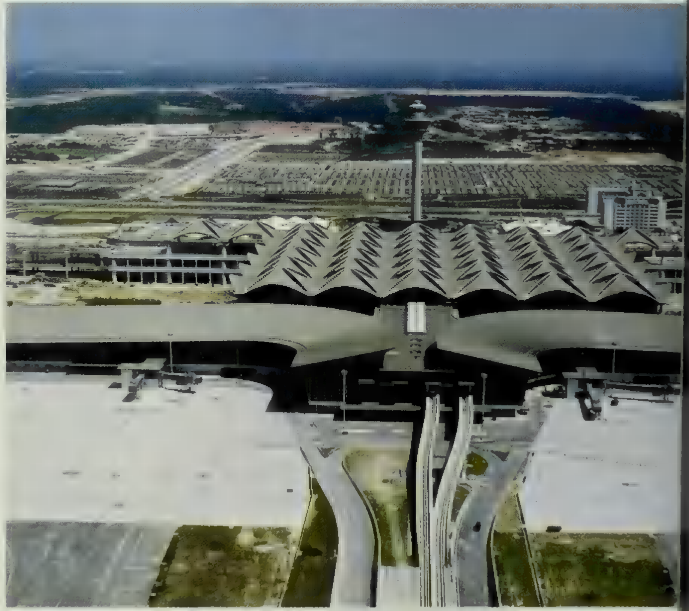
More than an enormous construction effort, the Kuala Lumpur International Airport (KLIA) was conceived in 1992 by Prime Minister Mahathir Mohamad as a national showpiece—a symbol of Malaysia's rising power in Southeast Asia. The new airport would anchor the southern end of an ambitious 30-mile-long "Multimedia Super Corridor" to include a high-tech development zone known as Cyberjaya, a new governmental complex at Putrajaya, and the Petronas Towers, the world's tallest buildings. Despite recent economic troubles in Asia, much of this Super Corridor is under way or completed.

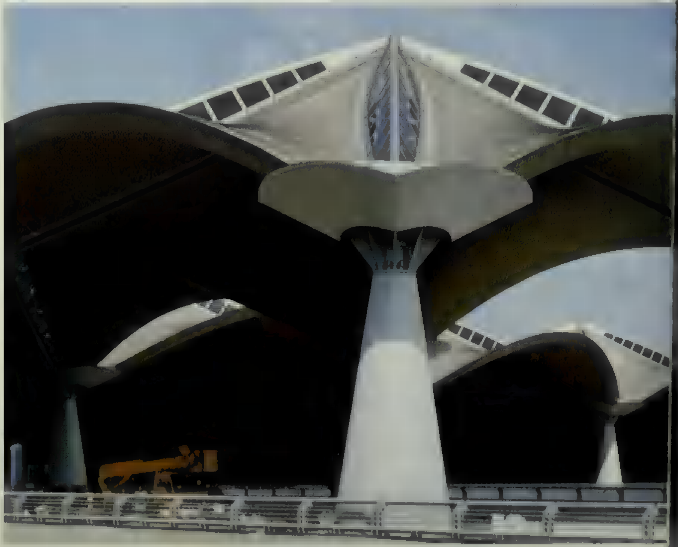
To be built in phases, KLIA was designed to compete with Singapore's Changi Airport as a regional hub and to handle 120 million passengers a year by 2020. After an international design competition, the Japanese architect Kisho Kurokawa won the job.

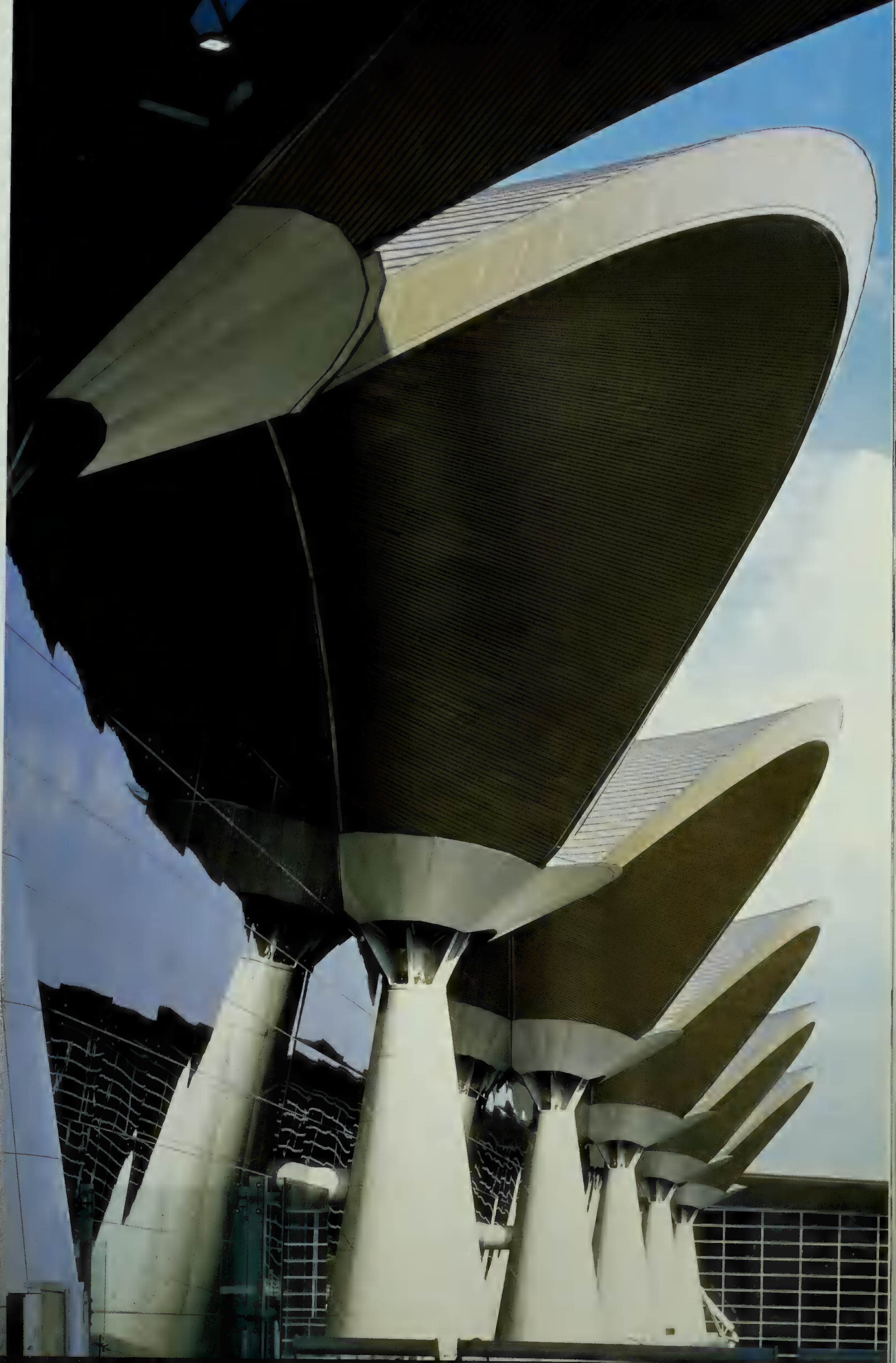
Design Solution

As built, KLIA features three main structures: a 1,842,000-square-foot main terminal, an adjacent 997,000-square-foot contact pier (or passenger concourse) for domestic and short-haul international flights, and a 1,543,000-square-foot satel-

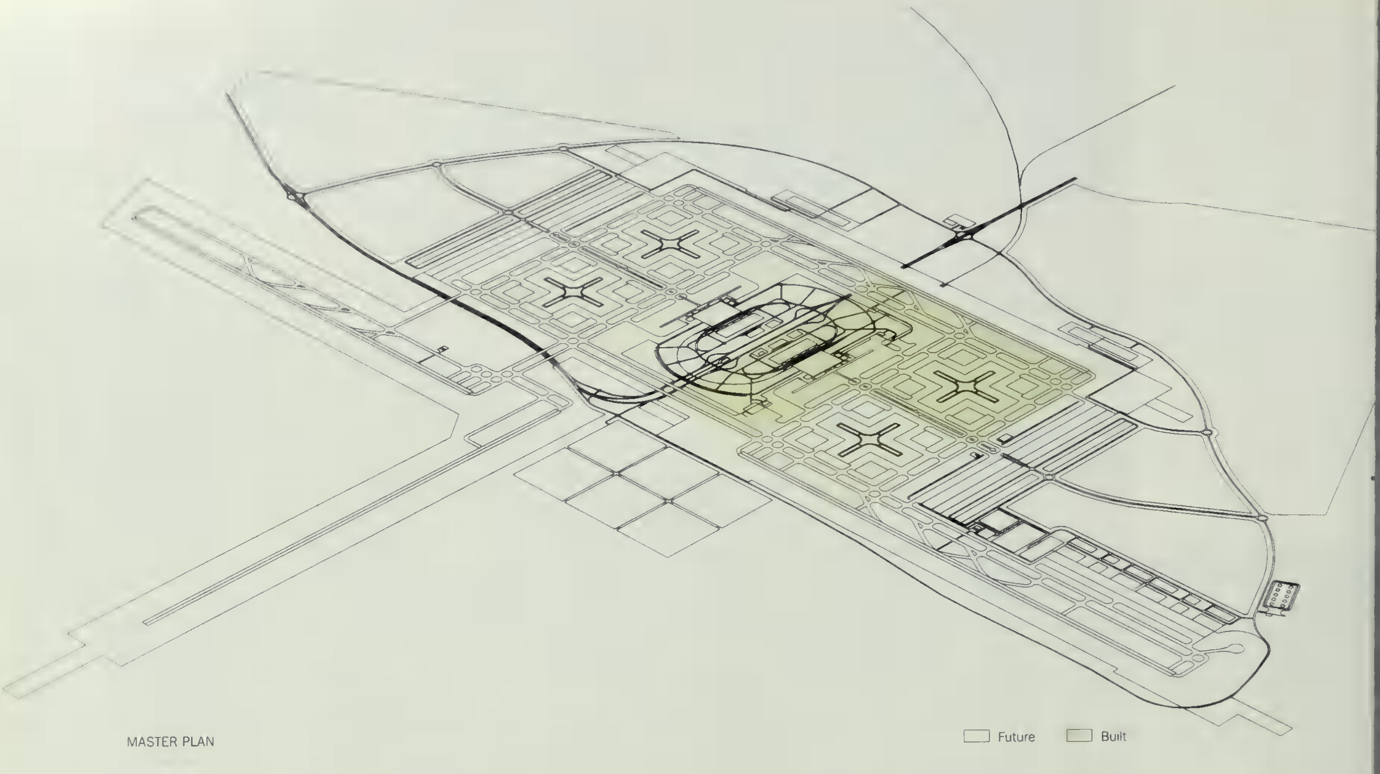
Thomas J. Campanella is a Fulbright fellow at the Chinese University of Hong Kong.



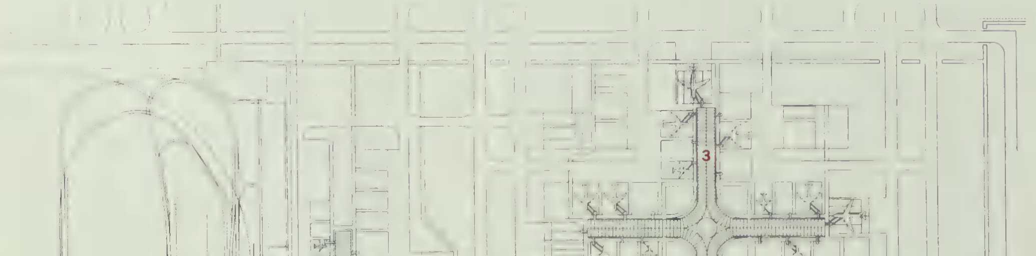




A long contact pier or gate concourse runs behind the main terminal (opposite top). The terminal's roof is a grid of hyperbolic-paraboloid shells that rest on conical columns and incorporate glazed trusses (right and opposite left).

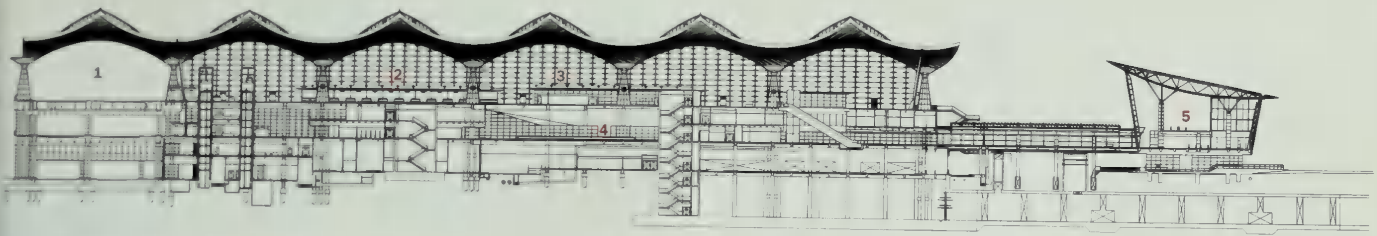


MASTER PLAN



SITE PLAN

1. *Main terminal*
2. *Contact pier*
3. *Satellite building*

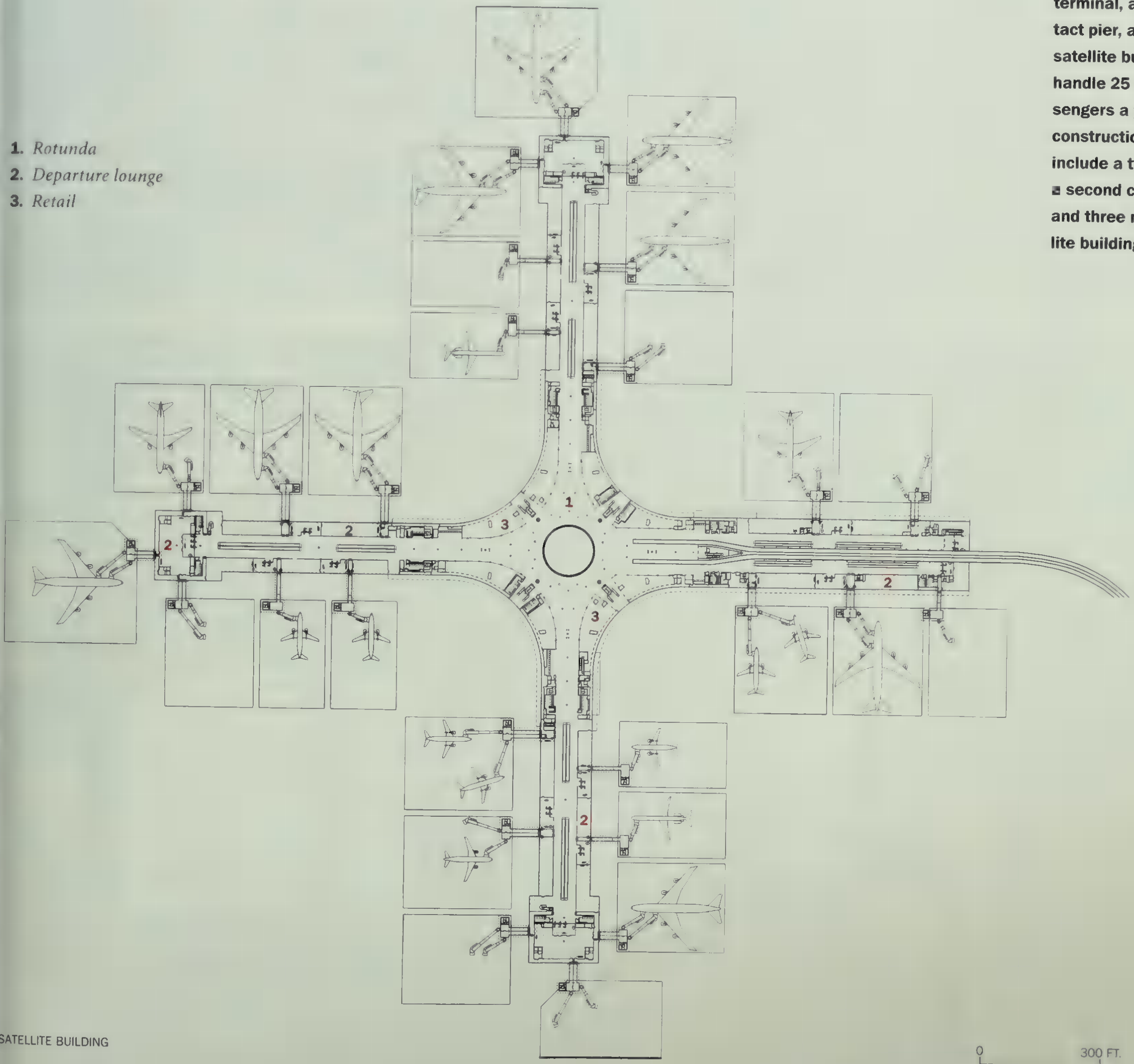


SECTION THROUGH TERMINAL AND CONTACT PIER

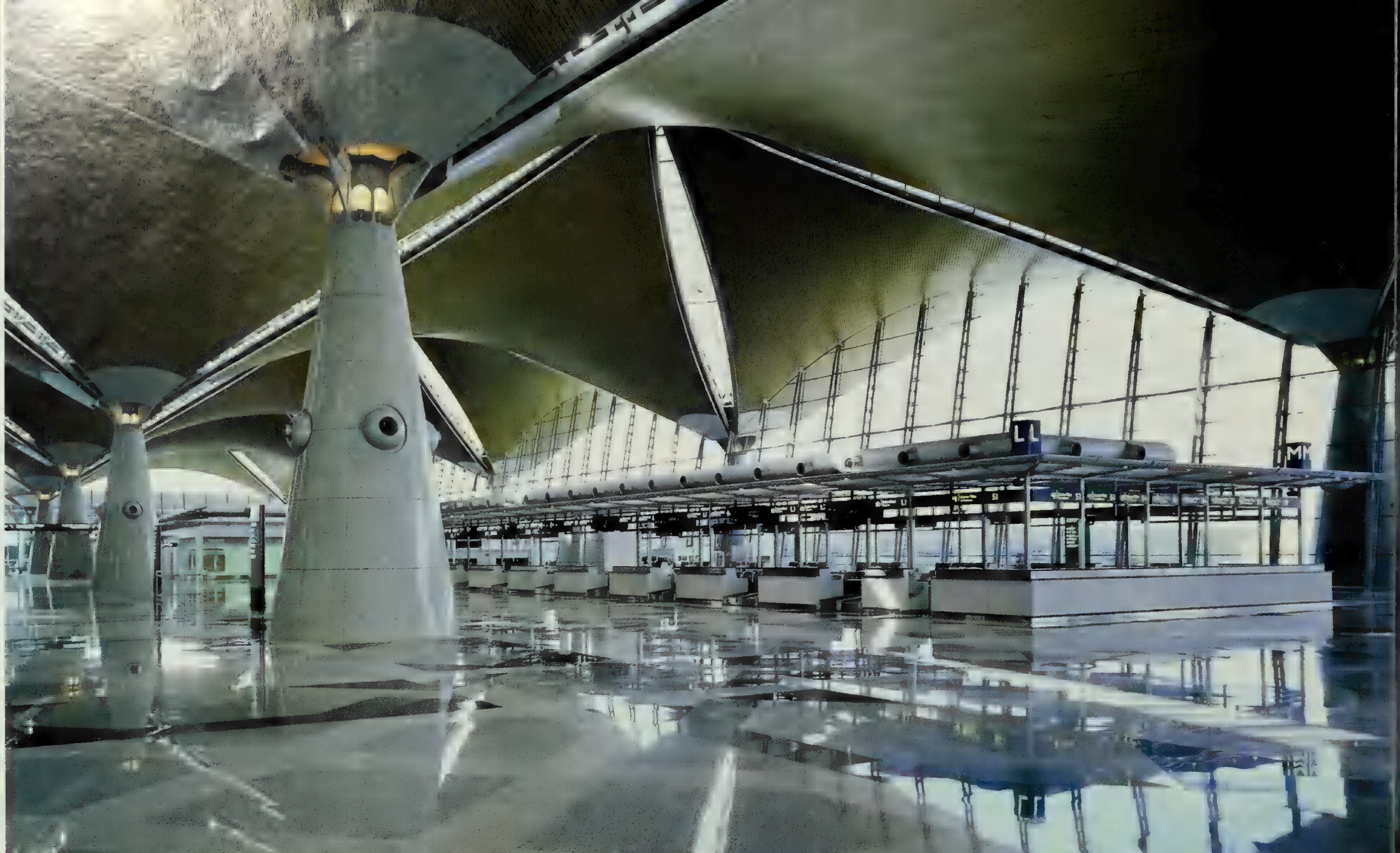
1. *Ground transportation*
2. *Ticketing*
3. *Retail*
4. *Baggage claim*
5. *Contact pier*

Phase I of the project has been completed and includes a main terminal, a long contact pier, and one satellite building. It can handle 25 million passengers a year. Future construction may include a twin terminal, a second contact pier, and three more satellite buildings.

1. *Rotunda*
2. *Departure lounge*
3. *Retail*



SATELLITE BUILDING



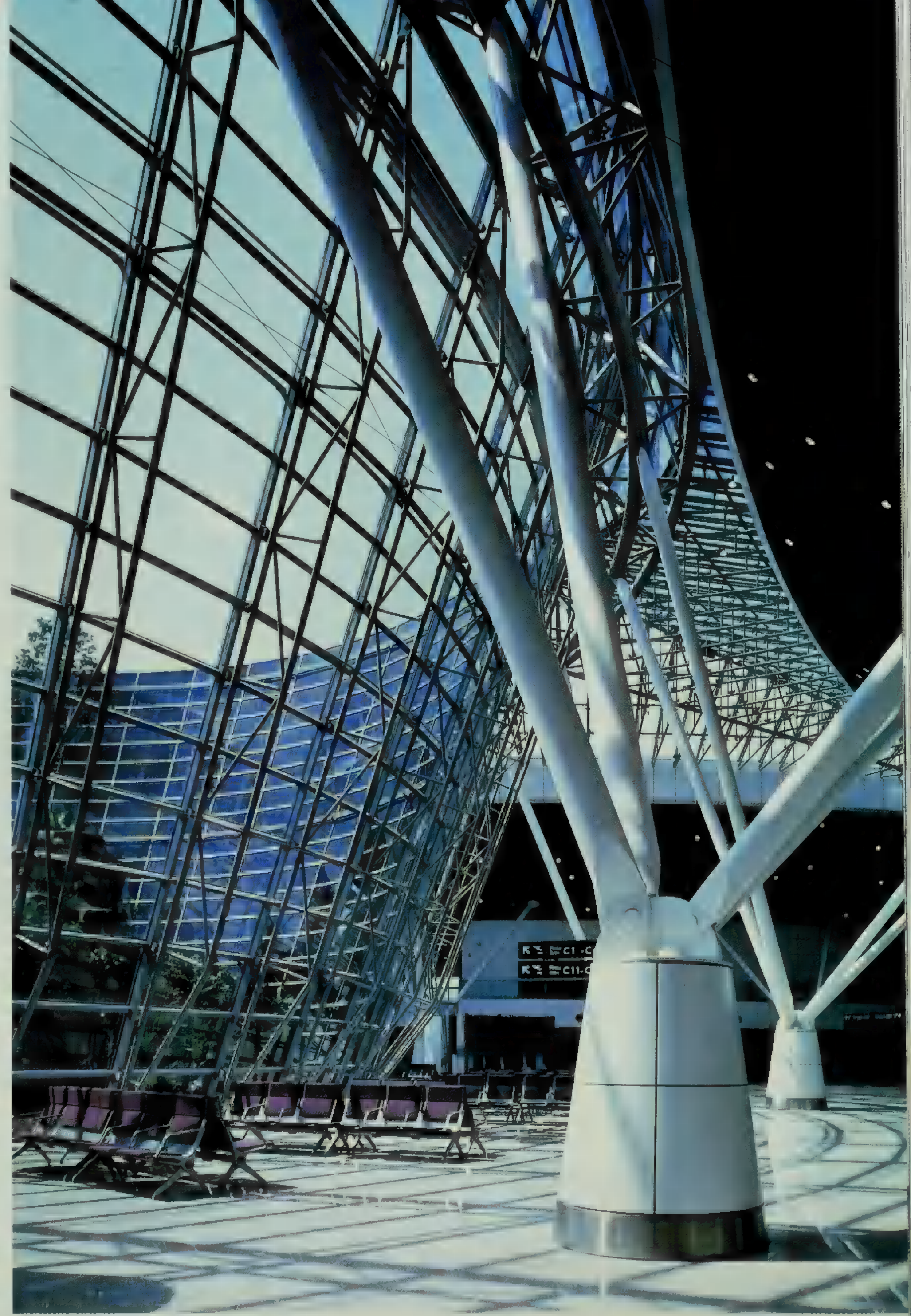
LL
MM

lite building to accommodate long-distance international flights. This satellite building is connected to the main terminal by underground high-speed conveyor belts and elevated people-mover trains. Plans call for eventually adding a twin terminal building, a second contact pier, and three more satellite structures, as well as three more runways to go with the existing two.

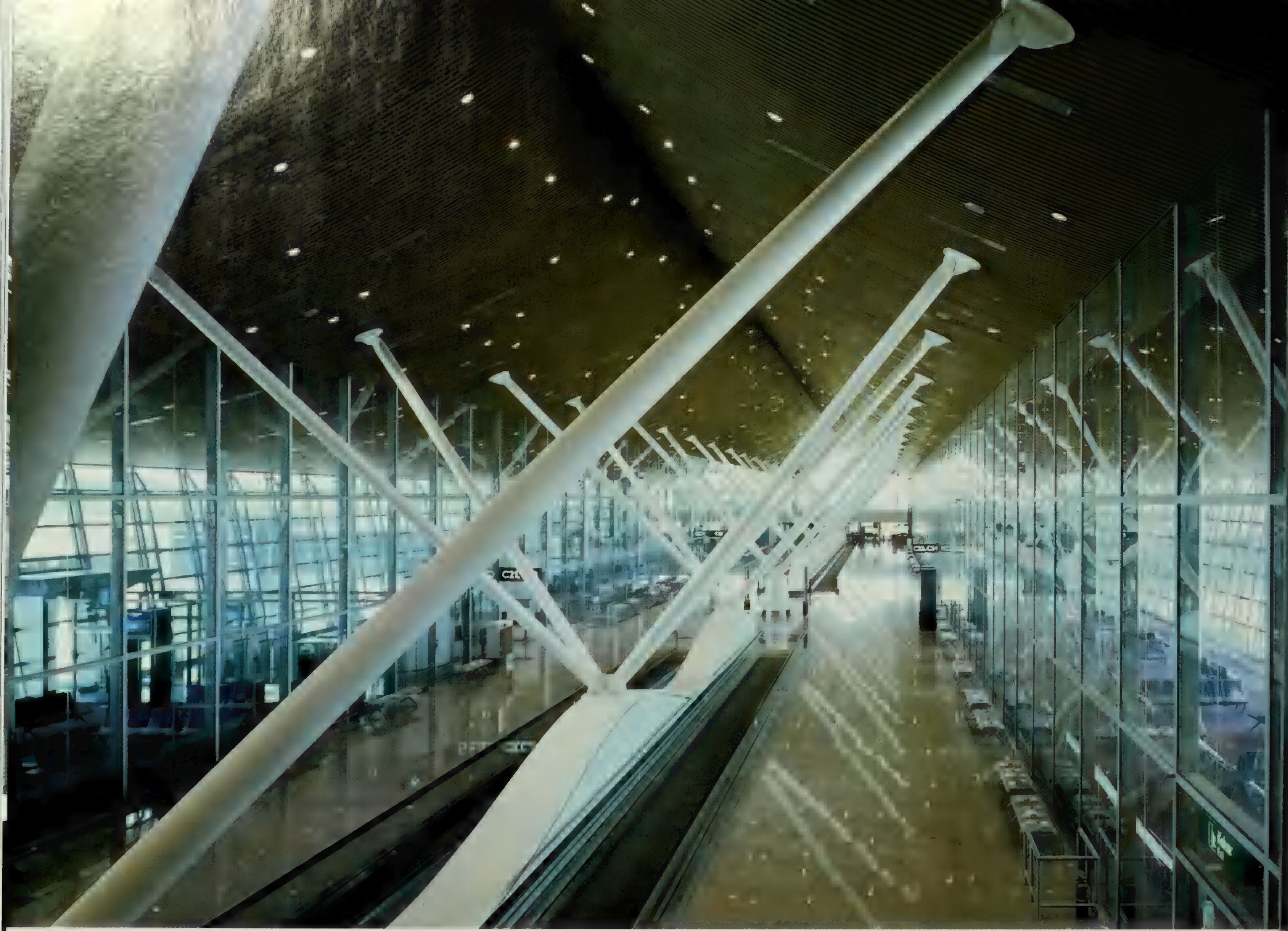
A leading Japanese architect since the 1960s, Kurokawa has written about the symbiosis of the natural and artifactual worlds. At KLIA he sought to fuse his architecture with the lush tropical landscape. Because the site itself was once a plantation, Kurokawa chose as a governing metaphor an "airport in the forest" and a "forest in the airport." The terminal building incorporates the woodland theme with a grid of trunklike columns that evokes a Malaysian oil palm plantation. An undulating ceiling adds to the impression of palm fronds overhead, while glazed connecting trusses resemble uplifted branches.

The open-plan terminal has six levels. Check-in islands, six in all, have louvered canopies that reduce the scale of the departure hall. Beyond the check-in counters are a variety of facilities including stores and prayer rooms (know as *suraus*) for the devout population of this mostly Muslim nation. The nontraveling public may continue to an observation deck, while travelers move through security checkpoints down to a mezzanine-level passport control area. The arrivals hall, with baggage claim and access to ground transportation, lies one floor below this.

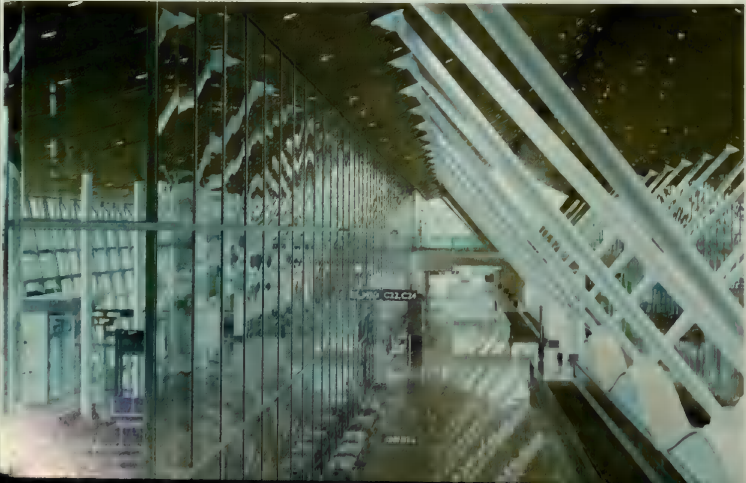
The contact pier, which is attached to the terminal building by a bridge, houses passenger gate lounges and a people-mover station. Between the main terminal and the contact pier are two landscaped areas planted with a mixture of native trees and shrubs—a literal manifestation of Kurokawa's forest metaphor. (Species unappealing to birds were selected to reduce the risk of collisions with aircraft.)



The satellite building wraps around a landscaped "forest" (above). The main terminal's departure level (opposite top and bottom) features a different kind of forest made of fat columns supporting roof modules that are 125 feet square in plan.



The passenger areas in the long arms of the satellite building (above and below), as well as the concourse area of the contact pier (opposite), are essays in transparency.



Structure/materials

The roof of the main terminal is a hyperbolic-paraboloid shell supported by a lattice of keel trusses mounted on a grid of reinforced-concrete columns. Conical steel capitals fitted with gusset-fin plates attach trusses to columns. The 100-foot-long trusses, which resemble great insect wings from the air, are glazed and serve as skylights for the departure hall. Columns are clad in polished granite and contain plenums for chilled air, jet-nozzle diffusers, and drainwater pipes.

Both the contact pier and satellite building use bow-truss roof structures supported in cross section by multipoint, column-mounted raking struts. The courtyard of the satellite building is enclosed by an inclined curtain wall supported by a ring truss. Throughout these buildings, the structural glazing system offers maximum transparency.

Commentary

The satellite building is the airport's most arresting element and also the least visible—situated more than two-thirds of a mile from the main terminal. Cruciform in plan, it is a study in glass and light, with four great arms pinwheeling about a landscaped courtyard. The lushly planted, visually compelling space is enclosed by an inverted conical curtain wall.

In spite of their size, all three of Kurokawa's buildings possess a lightness made possible by an abundant use of glass. Glazed curtain walls offer generous views outside and help travelers orient themselves. By connecting people to daylight and plantings, the complex helps relieve the anxiety of modern air travel. ■

A1-A11

San Diego International Airport

San Diego, California

2

GENSLER AND SGPA ARCHITECTURE **BRING AN AERODYNAMIC SLANT TO A NEW TERMINAL, WHILE CATCHING SOME OF THE VIEWS OF ITS CALIFORNIA CONTEXT.**

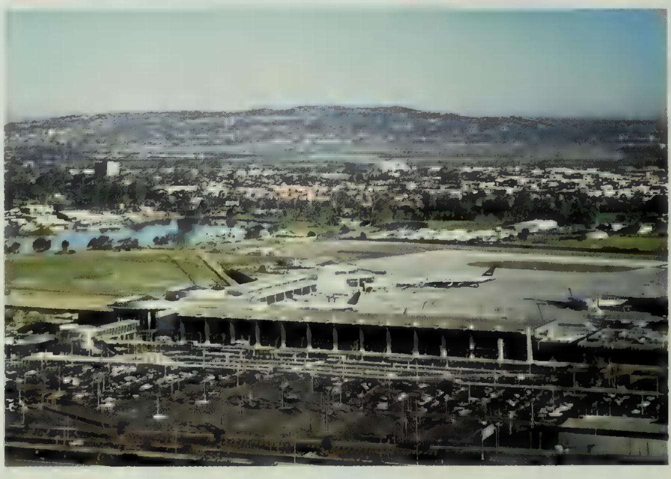
by Alice Y. Kimm

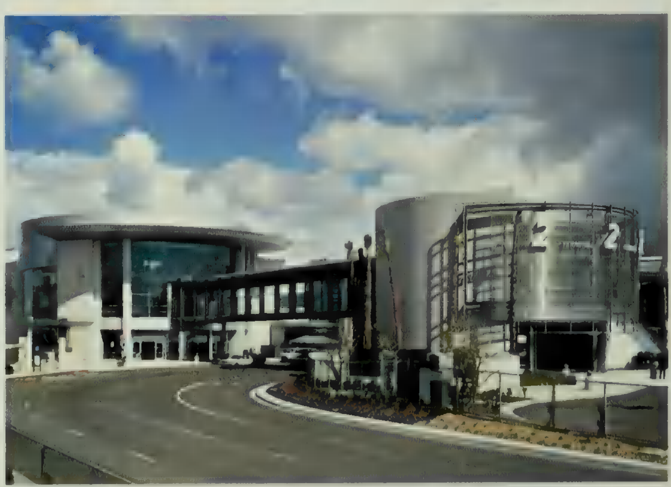
Project: *Terminal 2, San Diego International Airport*
Architect: *Gensler—Andrew Cohen, AIA, project director; Kap Malik, AIA, project designer; Ronald Steinert, AIA, terminal planner; Gerhard Pichel, AIA, project manager; John Circenis, AIA, Imre Takacs, project architects; Son Do, Lorraine Francis, Tim Sullivan, Claud Kamar, Craig McMahon, AIA, Bill Lim, Thomas Rosbach, Huston Eubank, Michael Collins, design team*
Architect of record: *SGPA Architecture & Planning—Dave Reinker, AIA, Bill Headley, AIA, Maria Koter, Chuck Snyder, Patrick Carr*
Engineers: *Cottrell, Valdos and Associates in association with Libby Engineers (structural); LSW Engineers (mechanical/electrical/plumbing); P & D Consultants (civil)*
General contractor: *Douglas E. Barnhart, Inc.*

Size: *320,000 gross square feet*
Completion date: *January 1998*

Sources
Exterior cladding: *Alucobond*
Sloped curtain wall: *Don Reynolds wall system, manufactured by EFCO*
Built-up roofing: *Johns Manville*
Lighting: *Bega, Orgatech, Zumtobel Staff*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**





Program

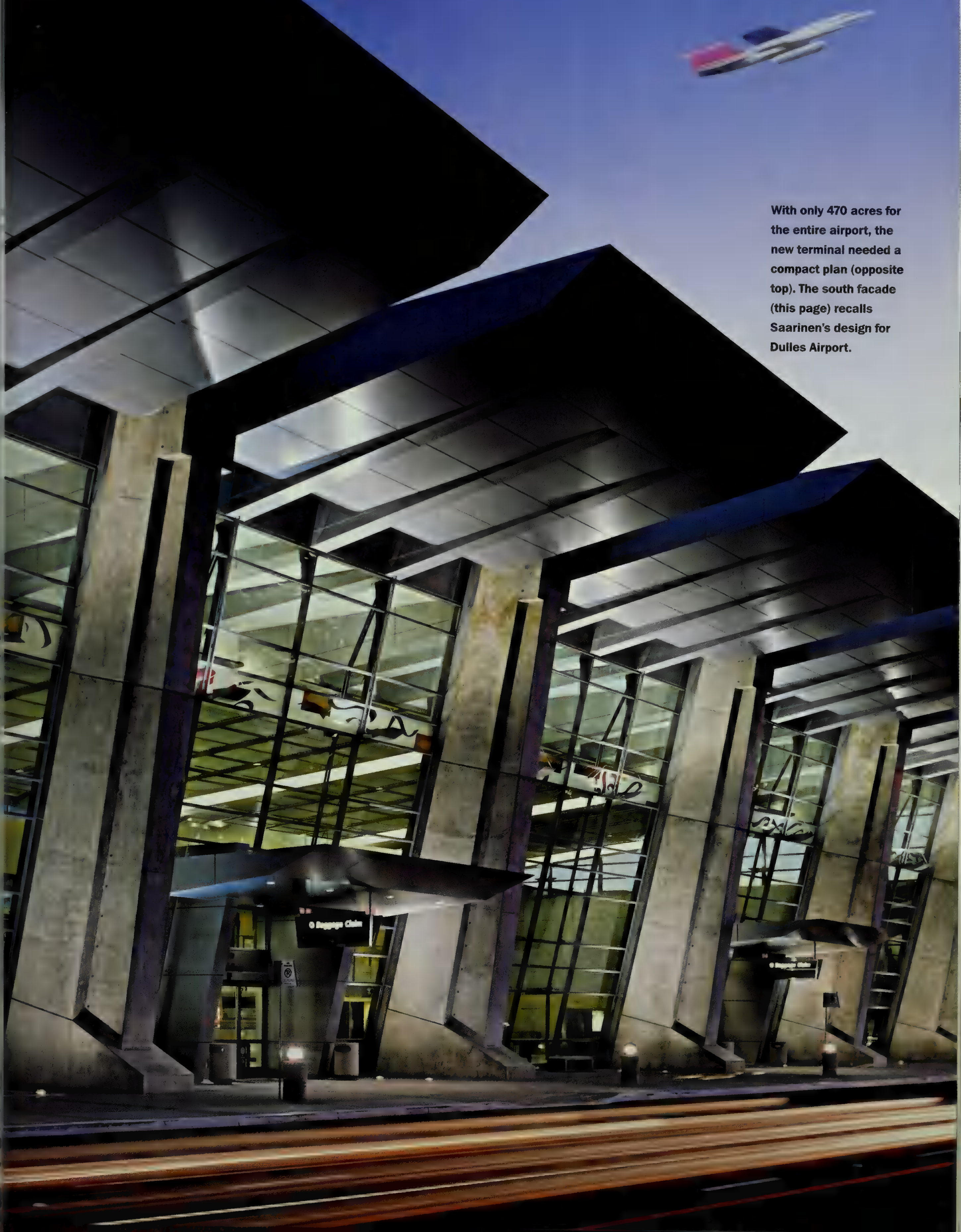
Constrained by a tight 470-acre site and growing passenger traffic, the San Diego International Airport needed a second terminal that would provide nine new arrival gates and be expandable when adjacent land becomes available in the future. The San Diego Unified Port District, which operates the airport, also wanted the new terminal to act as a gateway to the city and recall San Diego's history as an aircraft-manufacturing hub. Other aspects of the job would include reworking roadways to reduce congestion and building a new parking structure and ground transportation plaza.

Design solution

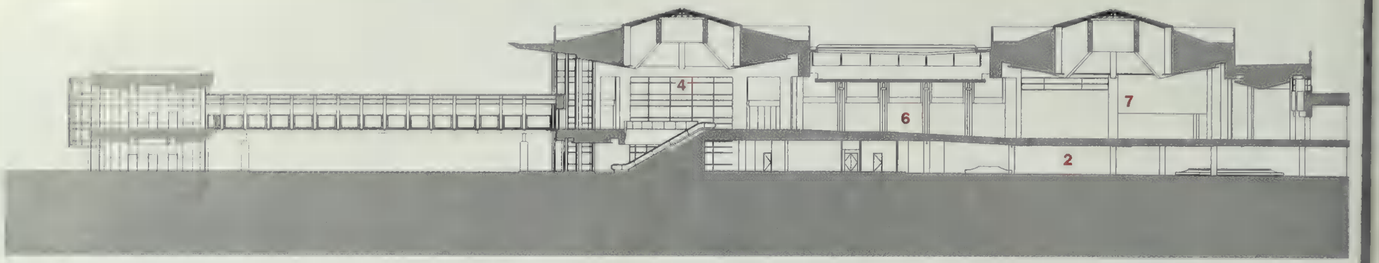
The new 320,000-square-foot, L-shaped terminal locates services and arrival gates to one side of a large linear concourse, which in turn is anchored by two large rotundas. The rotundas work as transition nodes and decision-making points. The landside rotunda, the terminal's main entrance, connects to a large new landscaped parking and transportation plaza via a circular pavilion and a sky bridge. The entry rotunda provides easy orientation and access to ticketing and the main concourse. The second—airside—rotunda contains concessions and other amenities. While many airports feature dramatic departure halls, arrivals halls are often less memorable. But in San Diego, a large, double-height baggage-claim wing delivers an architectural punch.

According to Kap Malik, project designer for Gensler, the project's organization works because "wherever you stand in the new terminal, you can see all other major program elements." The plan's simplicity will allow for future expansion to occur easily. When land directly to the

Alice Y. Kimm is a partner in the Los Angeles firm John Friedman Alice Kimm Architects.



With only 470 acres for the entire airport, the new terminal needed a compact plan (opposite top). The south facade (this page) recalls Saarinen's design for Dulles Airport.



NORTH-SOUTH SECTION

1. *Transportation plaza*
2. *Baggage claim*
3. *Ticketing*
4. *Entry rotunda*
5. *Airline operations*
6. *Security corridor*
7. *Marketplace rotunda*
8. *Holdroom*
9. *North rotunda*

west becomes available, additional arrival gates will simply be added to the opposite side of the present concourse, and the two rotundas will remain the nuclei of the expanded facility.

Structure/materials

If the clarity of the building's plan gives rise to its efficiency, its envelop refers to the aeronautical age with sleek, winglike forms. The building is framed in steel, with concrete elements providing lateral stability. Moment frames eliminate the need for cross-braces.

The structure is tied to form: for instance, the baggage-claim area is a double-height hall framed on the south by a 700-foot-long glass curtain wall punctuated by poured-in-place concrete piers. Clearly inspired by Eero Saarinen's Dulles Airport in Washington, D.C., this wall tilts forward and faces the ocean. While the practicality of a tilted wall lies in the creation of a sunshade that blocks southern glare, metaphorically it refers to the angle of an airplane wing.

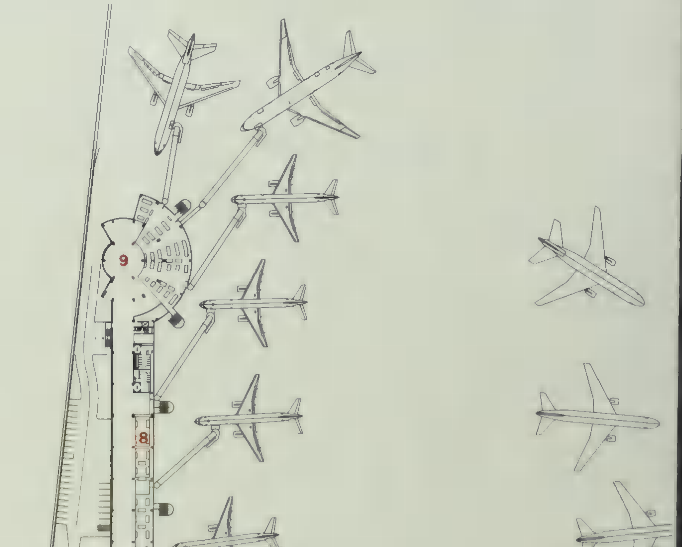
At San Diego the profiles of the tilted wall, sloped steel-framed ceiling, and overhead eaves, along with the sheer scale of the hall, draw the visitor toward views of the sea. Standing on the upper concourse and looking out through the south-facing glass, "you can see not just the water, but sailboats," says project designer Malik. Three immense skylights also bring the outdoors inside, as do ceiling panels corrugated like rolling ocean waves.

While the architects used stainless steel, concrete, and glass to define or dissolve spatial boundaries, they specified warmer materials for floors and solid walls. Introducing color without resorting to paint, Gensler used materials such as slate and limestone in their natural states. And in a subtle homage to a local masterpiece, concrete for the piers along the arrival hall's south wall was mixed to match the concrete at Louis Kahn's Salk Institute.

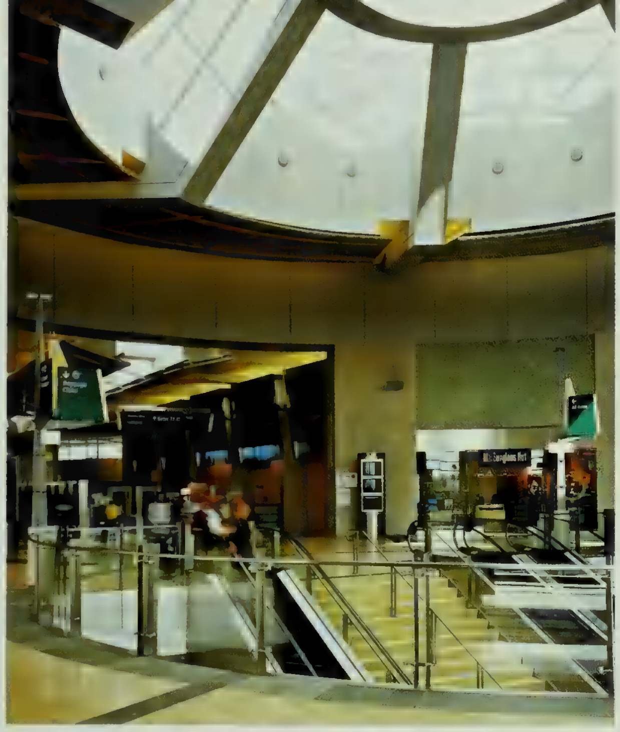
To maximize energy-efficiency, Gensler used low-e glazing at curtain walls, advanced variable volume air-handling systems, and air-economizer cycles (which turn off cooling systems whenever the outside temperature drops below interior temperature). In addition, an automatic control system turns off interior fixtures when there is sufficient ambient light.

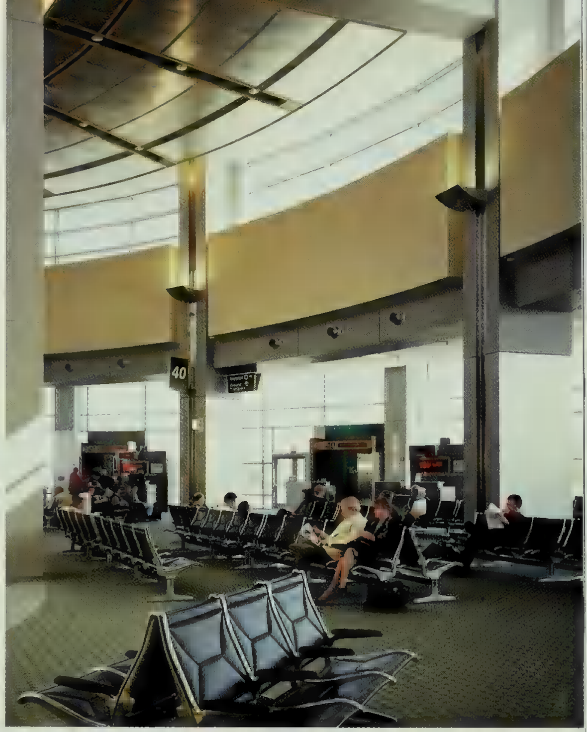
Commentary

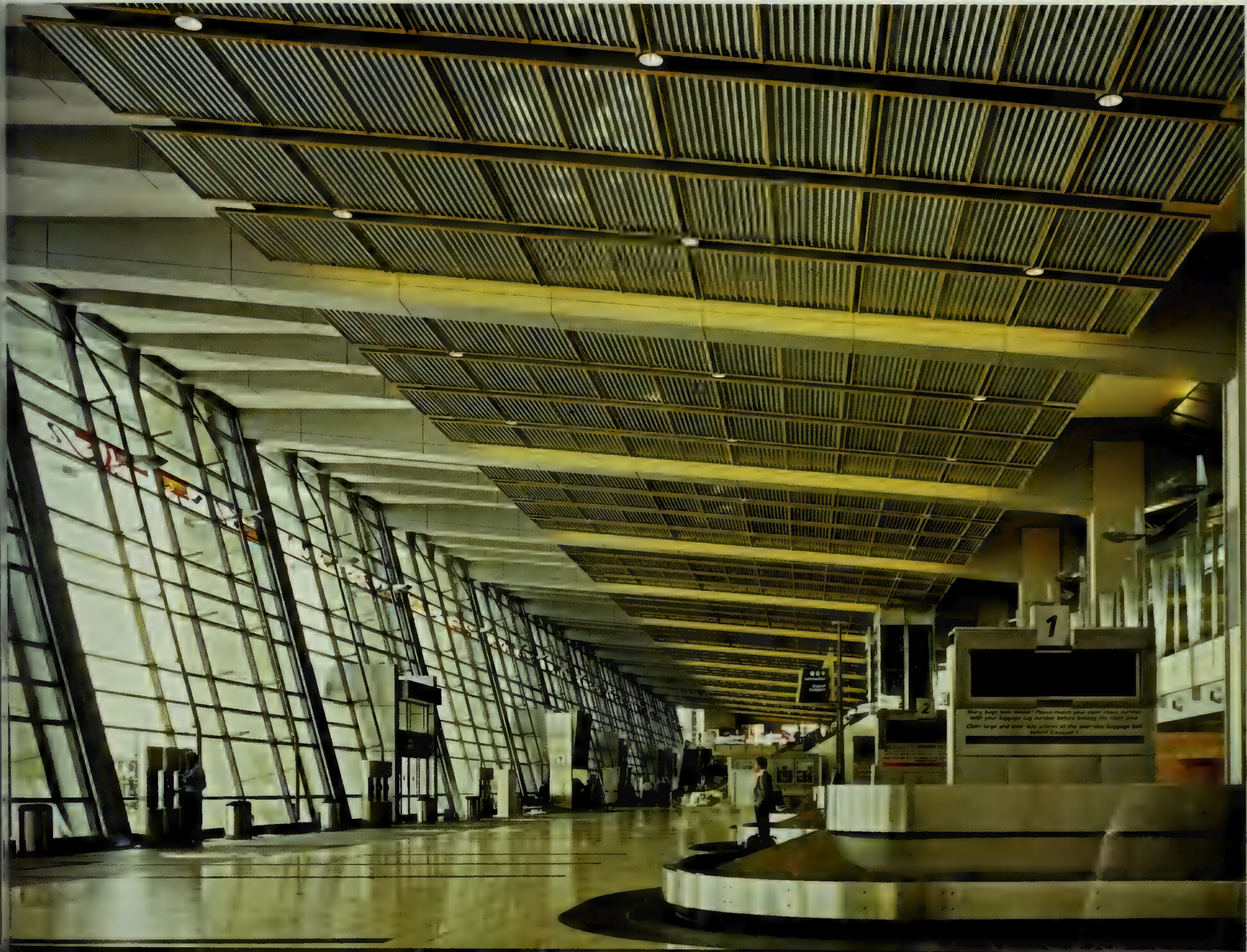
While the two rotundas that anchor Terminal 2 may fall short of formal or visual innovation, they serve to anchor a building that functions simply and elegantly. And elsewhere, such as at the arrivals hall, the project's more skillful spatial and formal articulation alludes to both the local context and an aeronautical spirit that recalls San Diego's industrial heritage. ■



Rotundas act as nodes between different parts of the terminal and help orient travelers. Both the entry rotunda (right) and the north rotunda (far right) also bring daylight in from above. The arrivals hall (below) features a 700-foot-long canted glass curtain wall.







Shanghai-Pudong International Airport

Shanghai, China

3

AÉROPORTS DE PARIS DESIGNS A SLEEK NEW AIRPORT FOR SHANGHAI'S 21ST-CENTURY DEVELOPMENT AREA. BUT IS IT REALLY NEEDED?

By Thomas Campanella

Project: *Shanghai-Pudong International Airport*
Shanghai, China
Architect: *Aéroports de Paris Architectes et Ingénieurs—Paul Andreu, principal; François Tamisier, Gérard Andreu, Pascale Gonon, Hélène Boitard, design team*
Engineer: *Coyne et Bellier (structural)*
Consultants: *Michel Desvigne (landscape); Yan Kersale (lighting)*

Size: *2.27 million square feet*
Completion date: *October 1999*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

Program

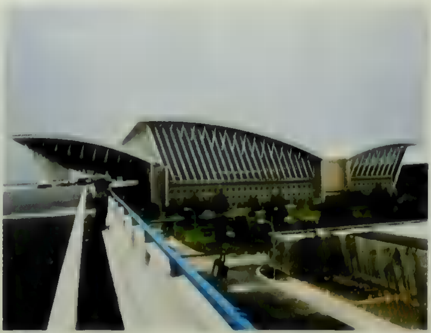
In the early 1990s the Chinese authorities decided to turn the Pudong district of Shanghai into a model metropolis for the 21st century. Lying across the Huangpu River from old Shanghai, Pudong has morphed during the past decade from an area of farms and villages into an explosion of skyscrapers, convention centers, shopping and entertainment districts, and one of the widest boulevards in the world.

To serve the new Pudong, the government decided to give it an international airport all its own, the second in the Shanghai area. After a design competition in 1996, Paul Andreu of Aéroports de Paris (ADP) was awarded the commission.

Due to the pace of development in China, the Shanghai-Pudong airport had to be built in record time, moving from initial design in the fall of 1996 to opening at the end of 1999. The first phase required 28 gates in the terminal and 11 remote gates and needed to handle 20 million passengers a year.

Design solution

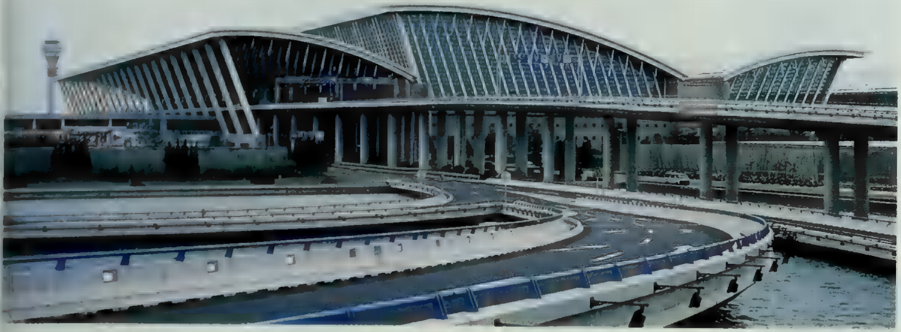
To speed the building process, ADP used a simple structural system for the project's signature roofs and began foundation work even as the superstructure was in the final design stages. Andreu approached the huge site by abstracting it into a geometric arrangement of water and landscape. Curving access roads and a right-of-way for a future rail line cut across a broad, rectilinear reflecting pond, while the terminal building sits within a great square of trees and gardens.



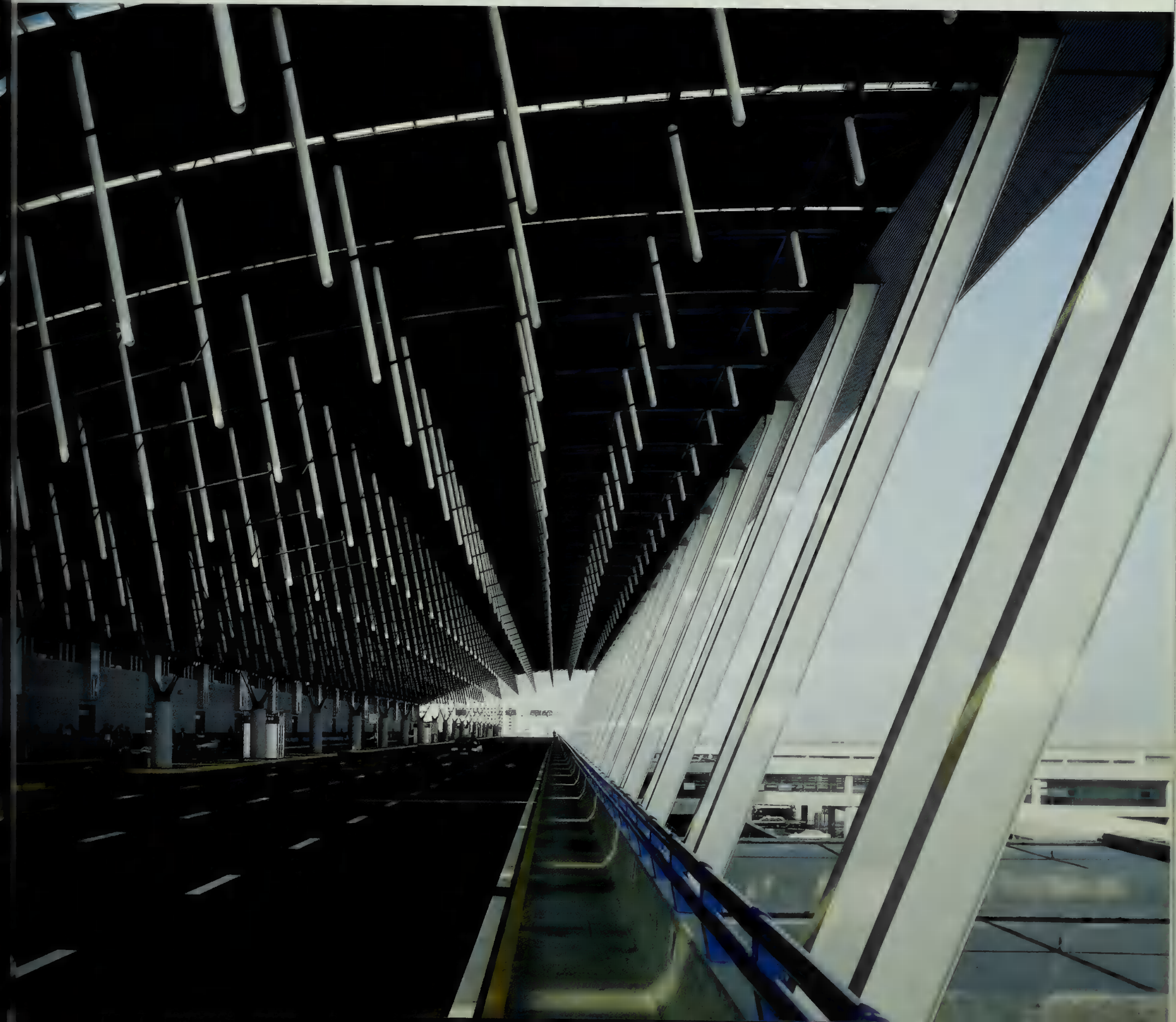
Andreu broke down the 2.27 million-square-foot terminal into four components—a drop-off platform, a departure hall, a retail area, and a gate concourse—and gave each its own curving roof. Angled curtain walls and radiating vertical mullions give the building a sense of upward thrust, but a heavy concrete plinth keeps it earthbound.

Inside the terminal, skylights illuminate hundreds of vertical roof-support members; when illuminated at night, these verticals resemble "a shower of comets falling from the sky," says the architect.

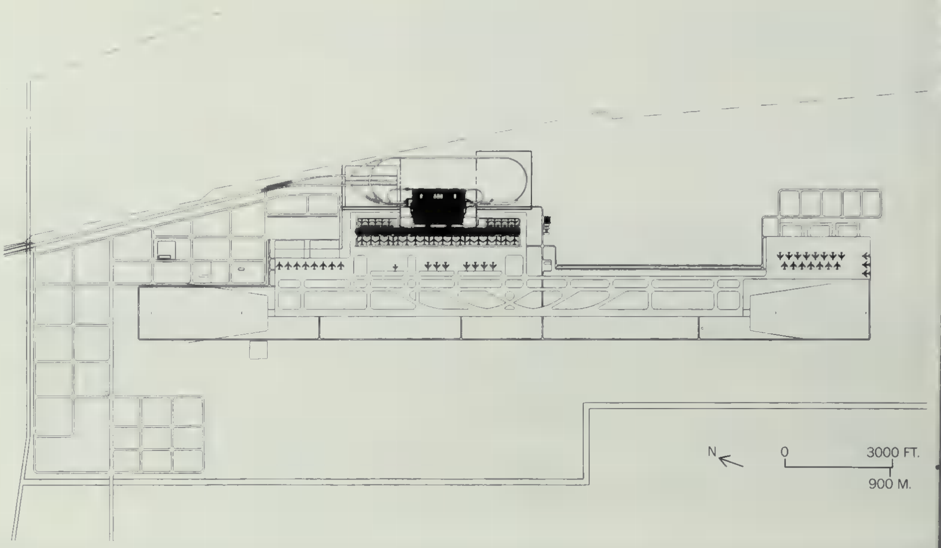
As is typical of airports today, arriving and departing passengers are segregated vertically and move



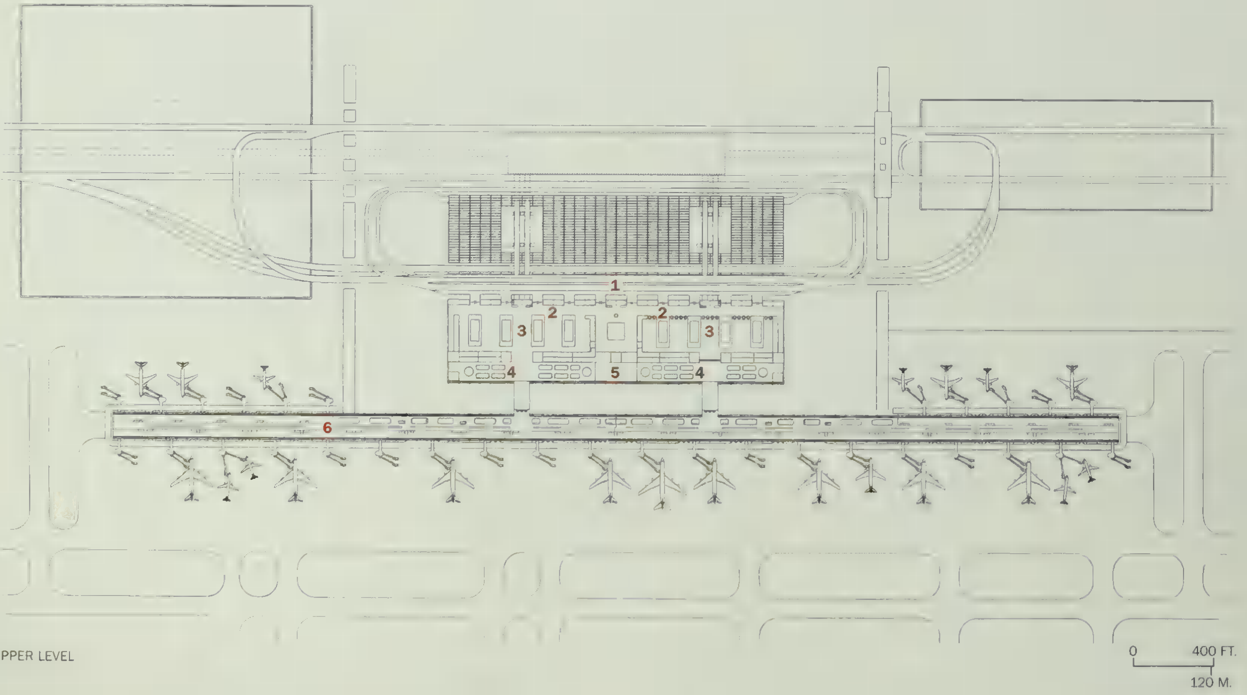
An access road cuts across a large rectangular pool (left) in front of the terminal. A curving roof covers each of the building's four main components: a drop-off area (below), the departure hall (middle section in photo left), a retail area (right in photo left), and a 4,600-foot-long gate concourse.



A glazed bridge (opposite top) leads from the main portion of the terminal (opposite bottom) to the departure concourse (opposite middle). There are 28 gates in the concourse and 11 remote gates beyond the building.

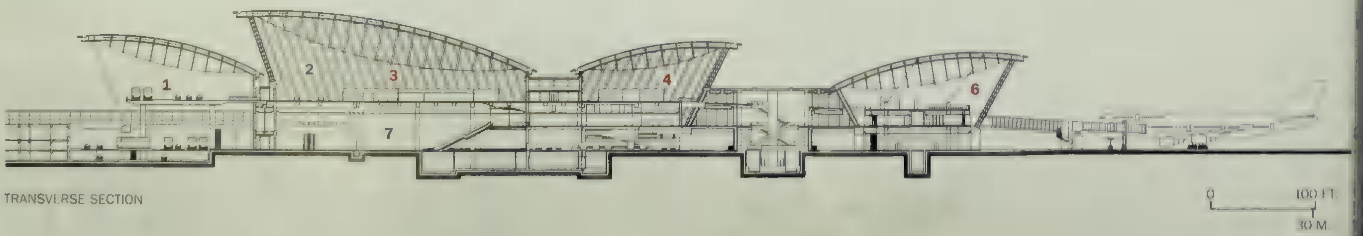


SITE PLAN

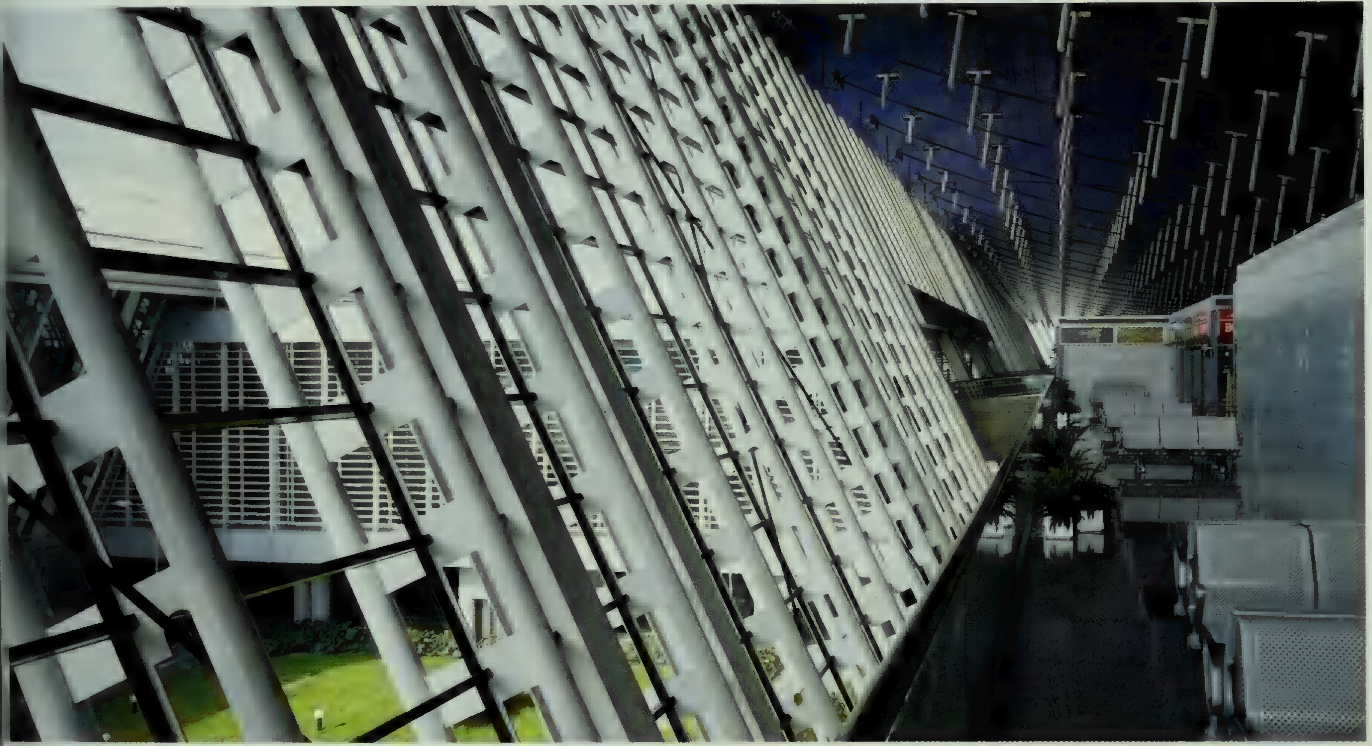


UPPER LEVEL

1. *Drop-off*
2. *Departure hall*
3. *Ticketing*
4. *Retail*
5. *Restaurant*
6. *Concourse*
7. *Arrival hall*

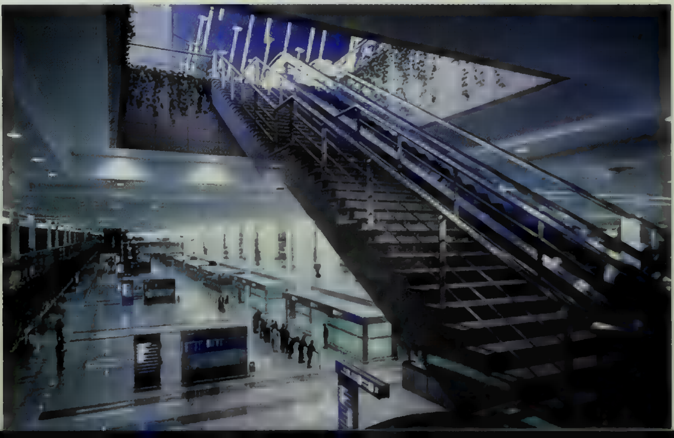


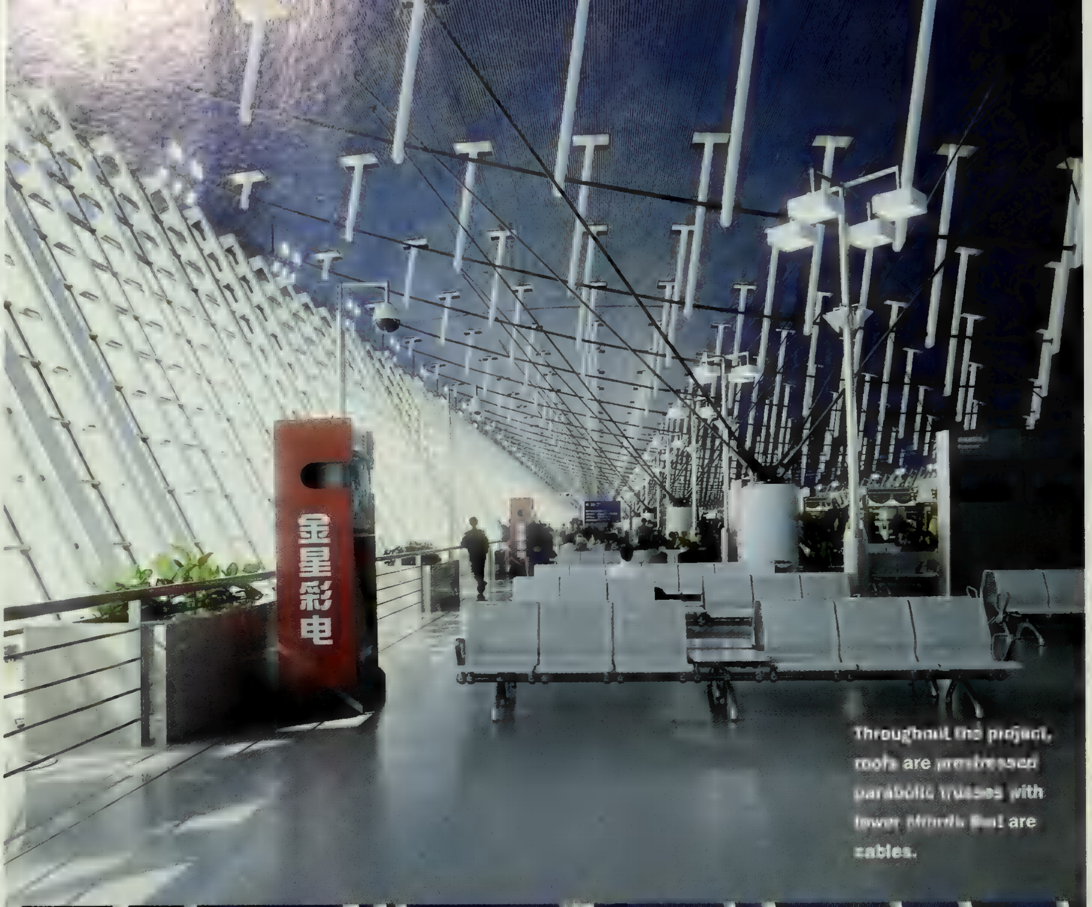
TRANSVERSE SECTION



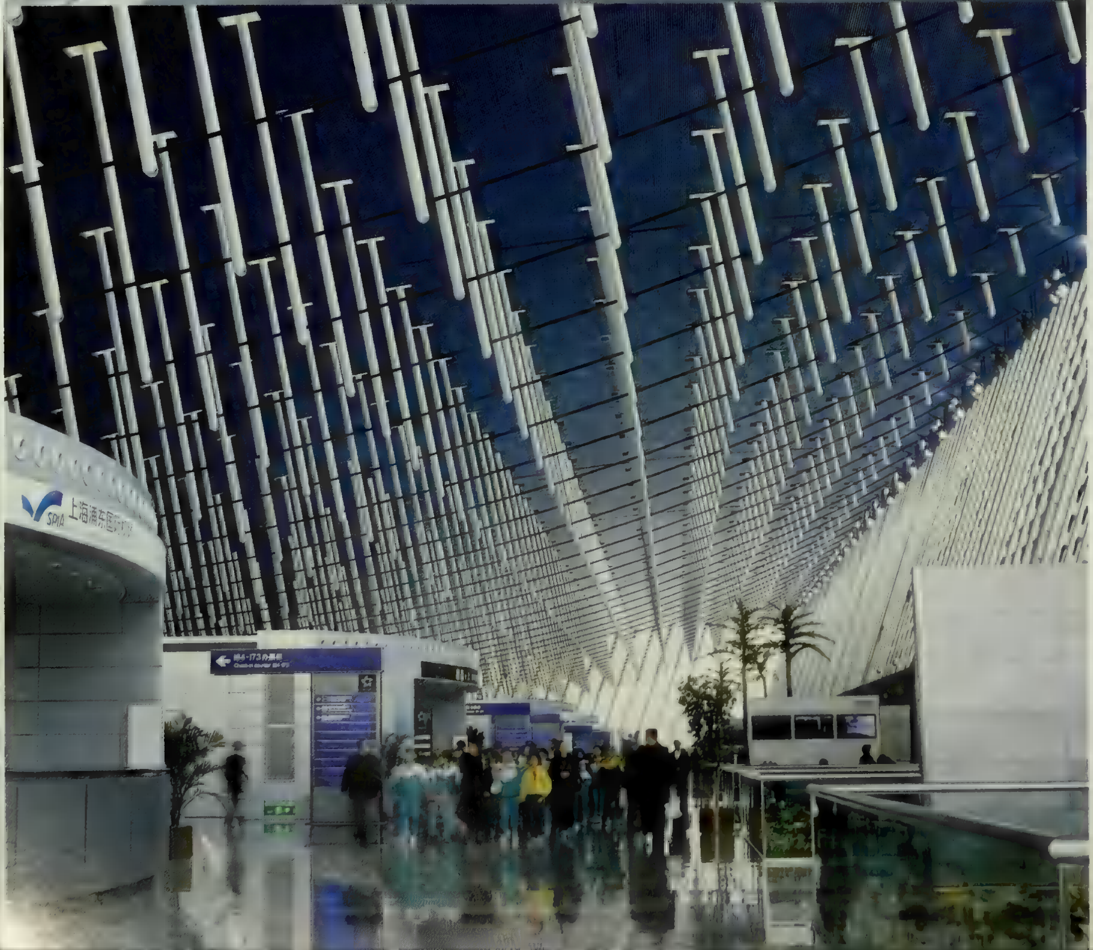
from one curved-roof zone to another. Located on the upper level are the departure hall and check-in counters, shops and restaurants, security checkpoint, and boarding lounges. Arrival areas, immigration and customs checkpoints, and baggage-claim facilities are located below. Glazed bridges connect the main portion of the terminal with the 4,600-foot-long concourse.

The present terminal is the first of four such complexes planned for the airport, each "module" designed to accommodate an additional 15 to 20 million passengers annually. The next phase will involve construction of a "mirror" complex opposite the present terminal; future plans call for a second pair of complexes further along the airport's central axis. When all construction is completed, the airport will be able to handle more than 70 million passengers a year.





Throughout the project, roofs are prestressed parabolic trusses with lower chords that are cables.



Structure/materials

Andreu used “contrasting but complementary elements”—light steel roofs and a heavy concrete base—to allude to the earth and the sky. The project’s most identifying elements are its roofs, which employ a series of prestressed parabolic trusses free of diagonal members and supported at each end by columns. The upper chord of the trusses is in compression, while the lower chord—a cable—is in tension. Where the roof is exposed to wind (as in the vehicle drop-off area) a series of uplift stays have been added for additional rigidity.

Commentary

Shanghai-Pudong International Airport was one of a number of major capital projects that opened on October 1, 1999, marking the 50th anniversary of the People's Republic of China. It is the largest and most technologically advanced airport on the Chinese mainland, and proof that architectural design and construction there has come a long way in the past decade.

The terminal’s clean and simple logic makes getting about effortless, something jet-lagged globe-trotters will particularly appreciate. Because the terminal is spacious and flushed with natural light, even a long layover here can be a positive experience.

Architectural quality aside, it is not yet clear how successful Shanghai-Pudong Airport will be. Competition with Hongqiao Airport, on the city’s west side, is inevitable. Air-passenger traffic in Shanghai has been growing at more than 20 percent a year, but whether this will be enough to support two major hubs remains to be seen. The Pudong airport is fairly remote, even from Pudong’s center (which, ironically, is more quickly reached from the old airport). The new airport’s planners have had a difficult time convincing investors that Shanghai’s center of gravity has shifted to the east side of the Huangpu River. For most people, Shanghai remains a city with a split personality, each with its own ambitions and now its own airport as well. ■

Tecno

SYSTEM FEATURES

Modular system
ily adapts to evolving layout requirements

ersatile components
ay be combined in erous configurations

Ergonomic design
provides maximum omfort and support

Equally well-suited to **traditional or ntemporary settings**

urable **high-quality aterials and finishes** *afford years of use*

ronmentally friendly
ents are recyclable

TYPICAL PPLICATIONS

Transportation Centers

Municipal Settings

tertainment Venues

rporate Campuses

alth Care Facilities

Shopping Malls

Theme Parks & Stadiums

Universities

Introducing a first class solution to the waiting game.

Providing the ultimate in versatility, durability and style, the RS Public Seating System is an innovative new design offered exclusively by Forms + Surfaces in partnership with Tecno S.p.A., Italy's most acclaimed furniture manufacturer. The modular system is based upon a series of interchangeable components—seats, tables, armrests—that can be configured (and easily reconfigured) for virtually any application.

Developed to refurbish the public spaces and waiting areas of the French National Railway, RS has been engineered to ease the wait and withstand the everyday challenges of real-world public use.

Forms+Surfaces

tel 800.451.0410 fax 805.684.7757 www.forms-surfaces.com

FORMS + SURFACES®

➤ DESIGNFORM+ ➤ SITEFORM+ ➤ LIGHTFORM+ ➤ SURFACES+ ➤ HARDWARE+ ➤ CORNELIUS+

Now there's a place to go for construction professionals to streamline the design process

construction.com

The site where Sweet's BuyLine® integrates to the MASTERSPEC® Solution for instant access to RFIs and RFPs.

The most comprehensive and widely used master specification product, MASTERSPEC is now integrated with the number one reference source for architects, engineers, contractors, subcontractors and owners, SWEET'S, to give you:

- Instant access to detailed product information
- Identification of appropriate product representation by region
- Ability to send electronic RFI/RFPs to ensure accuracy and timeliness

Now you can quickly move from product selection to product specifications to request for proposals, connecting with all the best people and products along the way.

www.construction.com

McGraw-Hill Construction Information Group

F.W.DODGE ARCHITECTURAL RECORD Sweet's Group ENR Design•Build

CIRCLE 54 ON INQUIRY CARD

Divisions of The McGraw-Hill Companies

THE
CABFORMS®
SOLUTION

HIGH-QUALITY,
NGINEERED SYSTEM

CUSTOM LOOK
A STANDARD PRICE

EXTENSIVE DESIGN
MATERIAL OPTIONS

ASY INSTALLATION
AINTENANCE FOR
CED LABOR COSTS

EAL FOR NEW OR
RNIZATION PROJECTS

EXCEPTIONAL
ACES+ TECHNICAL
USTOMER SUPPORT

ADTIMES TO MEET
MANDING PROJECT
SCHEDULES

MATERIAL
OPTIONS

STAINLESS STEEL

BRONZE

BRASS

COPPER

ALUMINUM

FUSED METAL

BONDED METAL

WOOD

Life can be demanding for an elevator cab.

Rush hour crowds. Briefcases. Luggage. Trolleys and carts. Enter CabForms®, the first high-performance, pre-engineered system for distinctive cab interiors. Offering a price-competitive solution, CabForms is designed to endure the rigorous demands of high-traffic environments. Standard packages include panels, handrails, trim pieces and ceiling. The vast Surfaces+ materials palette rounds out the options and makes it easy to tailor your package to meet the aesthetic and performance needs of any environment.

Surfaces+
A FORMS+SURFACES® COMPANY

tel 877.676.7738 fax 805.684.8620 www.forms-surfaces.com

Forms+Surfaces®

➤ DESIGNFORM+ ➤ SITEFORM+ ➤ LIGHTFORM+ ➤ SURFACES+ ➤ HARDWARE+ ➤ CORNELIUS+

SOMETIMES, NOTHING BUT BLUE WILL DO.
INTRODUCING VERSALUX™ BLUE 2000T
ARCHITECTURAL GLASS.

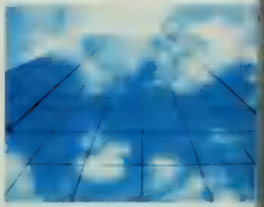
Yellow jeans. A purple-ribbon finish. Some things just wouldn't make sense if they were any color but blue.

If you're having visions of blue for your next building, discover a distinct shade of difference: Versalux Blue 2000T architectural glass from Visteon.

A stunning, bolder blue—Versalux Blue 2000T's titanium-based coating gives you a brilliant exterior look. While having excellent solar-control properties it also allows for a brighter interior environment. Versalux Blue 2000T is now available, easy to work with, and backed by Visteon's exceptional commitment to service. All in all, it reflects beautifully on those who recommend it.

Visit visteon.com/floatglass to find out more about Versalux Blue 2000T. And see what possibilities come out of the blue.

CIRCLE 55 ON INQUIRY CARD



Seeing is believing. Call us at **1 800 521 6346** *for a free sample of Versalux Blue 2000T. The brightest blue under the sun.*

Visteon

See the possibilities™

Using multiple glass skins to clad buildings

THEY'RE SOPHISTICATED, ENERGY-EFFICIENT, AND OFTEN SPARKLINGLY BEAUTIFUL, BUT WIDELY USED ONLY IN EUROPE—AT LEAST FOR NOW.

By Werner Lang and Thomas Herzog

Although a dual-layered glass facade may be configured in many ways, it is essentially a pair of glass skins separated by an air corridor ranging in width from a few inches to several feet. The glass skins may stretch over an entire structure or a portion of it, or a single layer of glass may arch, tentlike, over several buildings with conventional or glass facades. The main layer of glass, usually insulating, serves as part of a conventional structural wall or a curtain wall, while the additional layer, usually single glazing, is placed either in front of or behind the main glazing. But no matter how the ayers are arranged, they make the air space between the ayers work to the building's advantage—primarily as insuation against temperature extremes and sound.

Dual-layered glass facades offer many indirect advantages as well, particularly the twin-face facade, which allows natural ventilation in an environment with high winds, such as high-rise buildings. This type, the most popular in Europe, enables users to control their working environment while helping to eliminate "sick-building syndrome," which can result rom an over-reliance on air-conditioning.

Werner Lang is a Ph.D candidate in the building technology department at he Technical University of Munich; he specializes in innovative sun-shading and heat-protection devices for dual-glass facades. Thomas Herzog, Ph.D., is hairman of the building technology department at the Technical University of Munich.

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/AIA Continuing Education article. To receive credit, turn to page 182 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

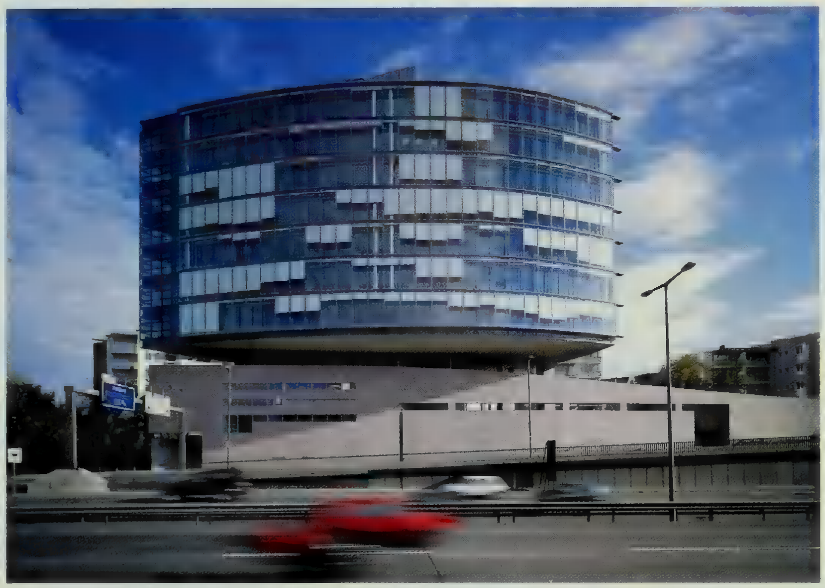
1. Describe dual-layered glass facades and how they function with the building's climatic system.

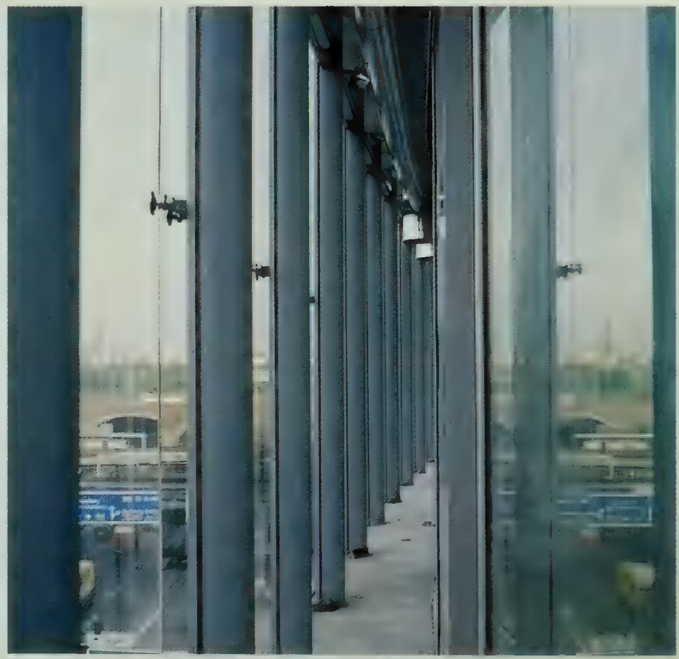
2. Compare the different classifications and characteristics of glass facades.

3. List the advantages of dual-layered glass facades for building occupants and owners.

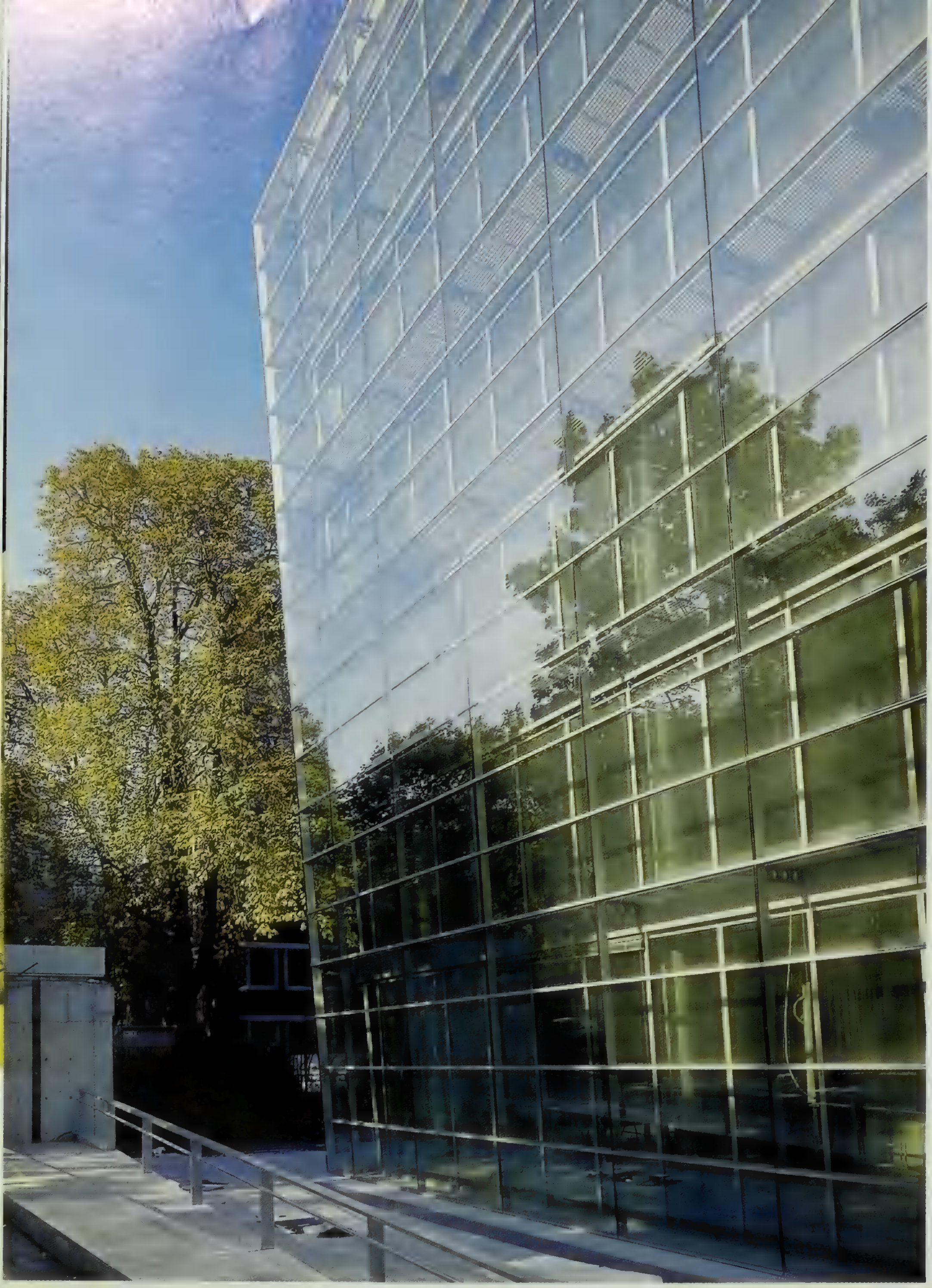
4. Discuss why these are not widely used in the United States.

WWW *For this and more continuing education go to:* **www.architecturalrecord.com**

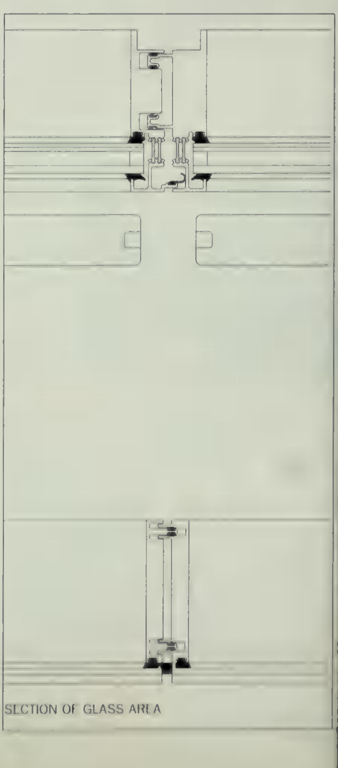




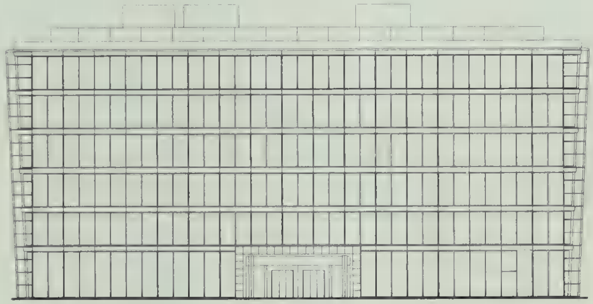
The Halenseestrasse "Lemon" is a 10-story office building in Berlin-Wilmersdorf. Designed by Hilde Leon and Konrad Wohlhage of Berlin, the Lemon's facade has a 28-inch-wide corridor between glazing layers (above) that contains sunshades. The corridors are mechanically ventilated; fresh air is drawn in at roof level and pumped to the floors via vertical shafts. The dual-glass skin also reduces noise and pollution from heavy traffic outside.



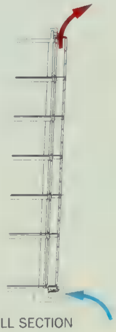
Van den Valentyn & Tillman's office complex for the Victoria Insurance Company in Cologne, Germany, consists of twin towers and a conical building. The dual glazing on the towers is coated to limit solar gain. The inner skin is sealed; the building is fully air-conditioned. But natural ventilation improves comfort by conditioning the air in the 31-inch-wide corridors. Fresh air enters the bottom of the air gap, moves upward through the grilles at each floor, and is exhausted out the top. Large expanses of glass limit the need for electric light.



SECTION OF GLASS AREA



ELEVATION



CURTAIN WALL SECTION

In winter, the glass layers enhance the heat-insulating funcions of the facade owing to the comparatively higher surface emperatures of the inner surface of the facade. Moreover, according to tudies by Drees & Sommer, environmental engineers in Stuttgart, twoayer facades improve sound insulation properties by 5 to 30 decibels, lepending on the layout of the floors.

THE AIR SPACE BETWEEN THE LAYERS OF LASS IMPROVES INSULATING QUALITIES.

All types of dual-layered glass facades offer a protected place—vithin the air gap—to mount shading and daylight-enhancing devices uch as venetian blinds and louvers. Sheltered from wind, rain, and snow, hese shading devices are less expensive than systems mounted on the xterior. The protecting layer of glass makes it possible to operate the levices year-round and in any weather. Maintenance and replacement are lso simplified by the gap. In addition, advanced daylighting systems, such s reflective blinds, prismatic components, and light grids, which are used o control daylight and heat gain, also are better installed in the gap.

Beyond the practical considerations, these crystalline facades ften possess a fragility and weightlessness that make more conventional wall systems seem oppressively solid. The glass admits copious quantities of light, so that the interior appears barely enclosed.

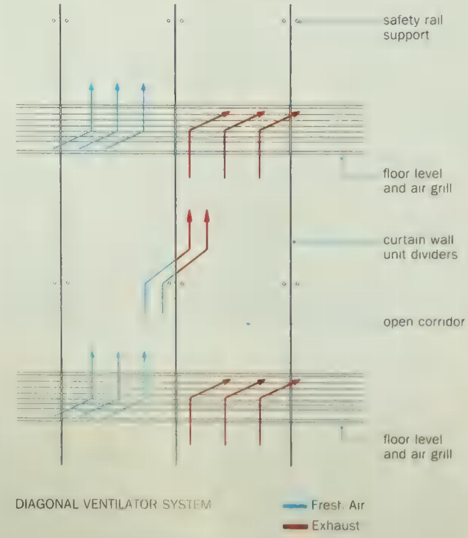
Architects in central Europe are increasingly using dual-glass facades to create these often-ethereal spaces while reducing energy consumption. According to some estimates by environmental engineers, certain types of ventilated facades show energy savings of 30 to 50 percent. But much confusion exists in the U.S. and other countries about the function, construction, costs, and appearance of these facades. A successful application addresses this type of facade not as an isolated subsystem of a building, but as an integral part of the whole building—its construction, its technical equipment, and the overall energy balance.

Twin face is best

A typology based on the function and construction of the dual-glass facades classifies the various systems and clarifies the different terms used in the design of the multilayered glass skins. There are three principal types of dual-layered glass facades: buffer, extract air, and twin face, which differ significantly with regard to ventilation and potential reduction of a building's energy demand.

Buffer facades have been around for almost 100 years and are still in use. They were developed before insulating glazing was invented to

Designed by Petzinka, Pink and Partner in Düsseldorf, the Düsseldorfer Stadttor has a glass skin placed over a conventional wall with doors that open to the corridors. Fresh air enters the skin at each floor via mechanically controlled grilles (drawing, right). Exhaust air is drawn diagonally through vertical glass panels and expelled through grilles at the top of each floor.


safety rail support
floor level and air grill
curtain wall unit dividers
open corridor
floor level and air grill
DIAGONAL VENTILATOR SYSTEM
Fresh Air
Exhaust

increase the heat- and sound-insulation properties of facades without reducing the use of daylight. They consist of two layers of single glazing mounted 10 to 30 inches apart. As with insulating glass, the gap between the two layers of glazing is sealed. Fresh air gets into the building through separate box windows, cut into the two layers of glazing. An early example of this type is the curtain wall of the 1903 Steiff factory in Giengen/Brenz, Germany. A modern example is the 1983 Hooker office building in Niagara Falls, N.Y., by Cannon Design in Grand Island, N.Y. This recent building improves on the model: warm air is exhausted through openings at the top of the facade, while cool air is drawn into a gap at the bottom.

EXTRACT-AIR FACADES WORK WELL FOR BUILDINGS IN WINDY AND NOISY LOCALES.

Extract-air facades, popular in the 1970s and 1980s, consist of a second single-glazed skin placed inside a main facade of insulating glass. This type of facade is useful for buildings in windy and noisy locations or in places with fumes, where fresh air is supplied by the HVAC system because natural ventilation via operable windows is not possible.

The gap between the two layers of glazing becomes part of th

[FIRE ENGINE]

WWW.FIREGLASS.COM

Your source

for fire-rated

glass and

framing

CIRCLE 56 ON INQUIRY CARD

TGP
Technical Glass Products
ONE SOURCE. MANY SOLUTIONS.
1.800.426.0279

PRODUCTS CAD DRAWINGS SPECIFICATIONS PRODUCT COMPARISONS ARTICLES LINKS

At Düsseldorfer Stadttor, a 184-foot-tall glazed atrium (left) shields open space between two 16-story towers. A somewhat different atrium was used at the Museum of the History of Hamburg, by Gerkan, Marg + Partner in Hamburg. Such atria reduce the thermal demand on the inward-facing walls and moderate temperatures within the adjacent buildings. They also serve as pleasant spaces.

air-conditioning system, since the "used," warm air is mechanically exhausted through openings in the inner skin and pulled into the gap of the facade. The warm air from the room heats the inner layer of glass, improving comfort and reducing heat lost through the facade during cold weather. From there, the extract air is led to heat exchangers (within the HVAC system) so the warm air tempers incoming fresh air and saves energy.

Shading devices may be mounted within the gap, keeping solar gains outside the occupied areas of the building in the summer, where they may be exhausted immediately. In this way, the extract-air facade lightens the cooling load. To supply the necessary air changes mechanically, however, demands energy and prevents occupants from adjusting the temperature of their individual spaces.

A better choice, and the most innovative and commonly used system today, is the twin-face facade. Developed in the late 1980s, this facade consists of a conventional curtain or massive wall system within an outer skin of single glazing. In most cases, the secondary glass skin is a non-load-bearing curtain wall made of a single layer of safety or laminated glass. It can also be made of insulating glass to enhance the thermal properties of the twin-face facade.

The width of the gap between inner and outer skins varies from 6 to 30 inches, depending on the space needed to maintain the facade and on the type and size of the shading system within the gap. Twin-face facades are primarily distinguished by openings in the skins that allow for natural ventilation. The outer glass skin blocks the wind, permitting high-rises or buildings in exposed settings to have access to fresh air. As a result, windows on the interior glass layer can be opened without gales sweeping through the space. Where external noise is a problem, remote openings allow fresh air to enter while minimizing sound.

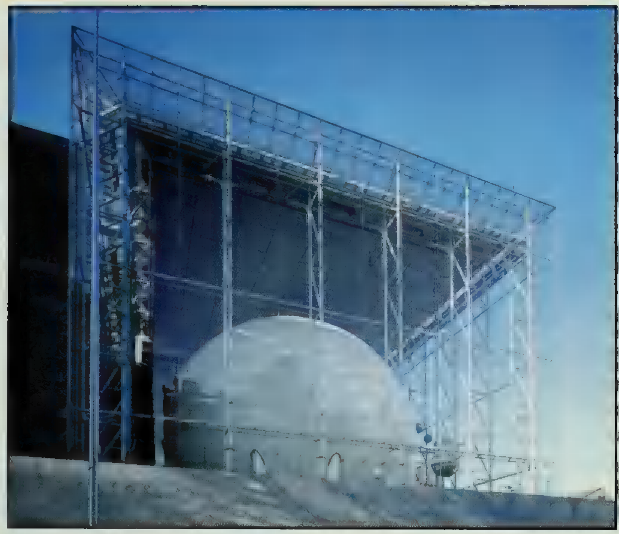
The role of glazing

Combining a variety of glazing types with very different functional characteristics enhances the function of dual-skin glass facades. Early versions, such as buffer facades, used single glazing for the outer and inner skins.

Extract-air facades employ insulated glazing for the outer skin and single glazing for the inner skin. That's because this type was developed so that the warm "used" air passes through the gap in the facade, tempering the inner layer of single glazing, while the outer layer of insulating glazing minimizes heat-transmission losses.

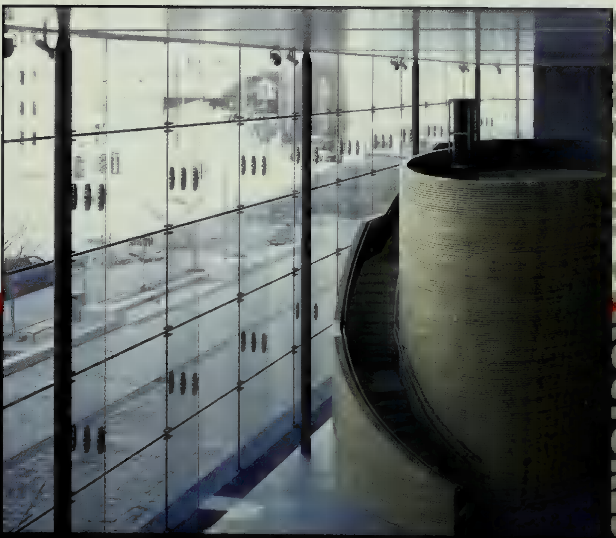
Twin-face facades combine a single-glazed outer skin with an insulating-glass inner skin. While the function of the outer skin is primarily to protect the contents of the gap and the inner layer from rain and wind, the insulating glass on the inner layer prevents heat-transmission losses during cold weather. It also offers a range of construction variations for the outer skin, leading to easier architectural expression. For example, the substructure of the outer layer of glass is normally composed of aluminum or steel cantilevers. The glazing is then fastened with a point-fixed system or top and bottom rails.

The Infinite Possibilities
of
Pilkington **Planar**™
Structural Glass Systems



SKYLITES & CANOPIES

TENSION STRUCTURES



GLASS FIN STRUCTURES

W&W GLASS SYSTEMS, INC.
Pilkington **Planar**
Structural Glass Systems
www.wwglass.com
Visit us on the web or call: 1-800-452-7925
CIRCLE 57 ON INQUIRY CARD

Mind the gap

An important criteria for the classification of glass facades is the way in which they divide the gap between outer and inner layers. The gap may be undivided, or it may be partitioned by walls, glazing, wings, or other design techniques. This determines the functional characteristics of the facade, such as its heat and sound insulation, as well as the means of fire protection used within the structure.

Undivided facades are simple systems without structural elements between the inner and outer skins. This type poses some problems: Noise flows throughout the air space so that any rooms with open windows are invaded by sounds from the rooms above, below, or on either side. Fire and smoke can also spread freely through the gap.

In addition, air that accumulates at the top of the air space between the two layers is likely to get hot on sunny days. Openings in the outer skin at the top of the structure siphon out the warm air, while cooler replacement air is drawn from near the base of the building.

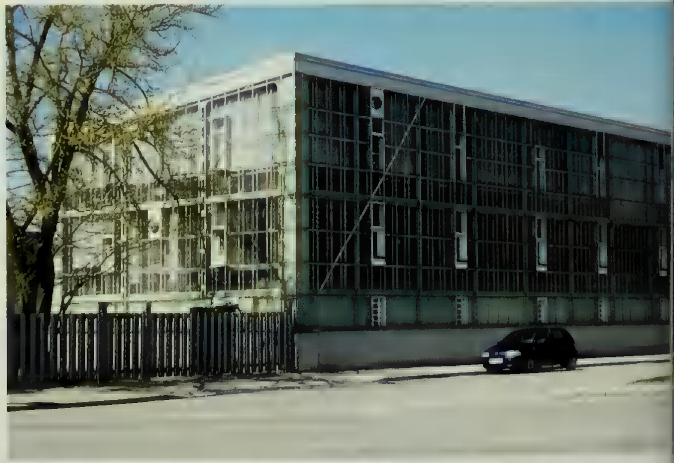
THE WAY THE GLASS LAYERS ARE CONFIGURED DETERMINES HEAT AND SOUND INSULATION AND FIRE PROTECTION.

Undivided facades include the following:

- Atria made by placing an additional layer of glass in front of or atop various wings of a building, creating a large, sheltered space. Atria are used for various purposes, such as meeting areas or cafeterias. Offices may open onto the atria, creating a more inviting and temperate work space. As in a conservatory or covered courtyard, the air temperature of these spaces is influenced by heat lost from the main building and by the weather conditions outside.

Atria reduce the thermal-performance demands on the walls that face inward. They can also collect solar radiation and lose heat from the surrounding building or buildings, keeping the temperatures within the space warmer, even on cold winter nights. Plants used in this space filter and moisten the air.

- In the house-within-a-house, a secondary skin completely encloses a building or several buildings [see RECORD, December 1999, page 78]. The solar radiation heats the air between the outer glazing and the facade of the building, thus reducing heat transmission and ventilation losses. Air can circulate in the whole space between the glazing and the original outer skin of the building, so parts of the interior not hit by the sun are heated. Summertime overheating is prevented by ventilation openings at the upper and lower extremes of the facade. The gap

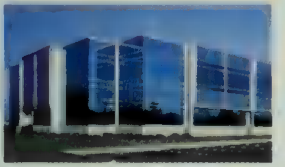


The 27-story circular tower, part of a complex of office and residential buildings in Essen, Germany, has a conventional curtain wall with a layer of glazing outside it (top and left). Designed by the Düsseldorf firm of Ingenhoven, Overdiek and Partner, the tower has an inner skin with operable windows that bring in fresh air from the air gap. The Steiff factory in Giengen/Brenz, Germany (bottom), built in 1903, is an early example of dual-skin glazing.

Solar control comes naturally.
The newest, coolest, most natural ways to manage the sun.

Now, there are more ways than ever before to manage the sun.

Architects the world over are discovering the crisp, natural beauty of the newest Pilkington architectural glass products.



Pilkington **Arctic Blue Eclipse**™ Glass:
Woodland Corporate Park II,
Indianapolis, Indiana

Pilkington **EverGreen Eclipse**™ Glass:
Republic Bank, St. Petersburg, Florida

Like the cool look of Pilkington **Arctic Blue**™ High-Performance Tinted Float Glass, combining excellent solar performance in an affordable tinted glass.

And the superior performance of Pilkington **Arctic Blue Eclipse**™ Reflective Glass, with its durable pyrolytic coating.

Or the ever-popular natural look of Pilkington **EverGreen**™ High-Performance Tint, now with it's own pyrolytic coating in Pilkington **EverGreen Eclipse**™ Reflective Glass.

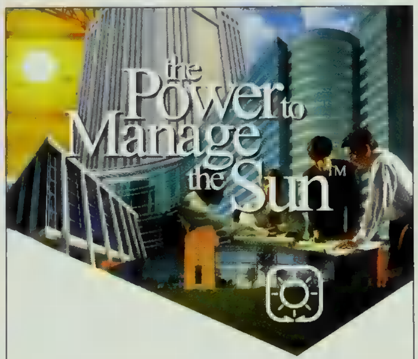
And all can be combined with color-neutral Pilkington **Energy Advantage**™ Low-E Glass for optimal performance in an I.G. unit.

See for yourself at **www.pilkington.com/sunmanagement**, or contact your Pilkington representative for more details.

Pilkington Building Products
P.O. Box 799, Toledo, OH 43697-0799
Telephone 419 247 4926, Fax 419 247 4517
www.pilkington.com
www.pilkington.com/sunmanagement

PILKINGTON

©2000 Pilkington
Arctic Blue™, **Arctic Blue Eclipse**™, **EverGreen**™, **EverGreen Eclipse**™, **Energy Advantage**™
Low-E Glass and **Sun Management**™ System are trademarks of Pilkington.
Photos may vary from glass color. Please see glass samples from Pilkington.


the Power to Manage the Sun™

...at your fingertips!

It's all waiting for you at **www.pilkington.com/sunmanagement**.

- The exclusive Pilkington **Sun Management**™ Interactive Calculator that lets you compare performance values for various glass combinations, and even...
- Generate **custom glass specifications**, in CSI format, ready to print, save as a file, or cut and paste right into your own project spec!
- A photo gallery of noteworthy projects
- Our complete Sweets™ catalog in electronic form
- A comprehensive library of Architectural Technical Bulletins
- Frequently Asked Questions about glass and glazing...and much more.

And it's all at your fingertips, at the Pilkington **Sun Management**™ website.

Your number one source for glass information.

PILKINGTON

Pilkington Building Products
P.O. Box 799
Toledo, OH 43697-0799
Telephone 419 247 4926; Fax 419 247 4517
www.pilkington.com
www.pilkington.com/sunmanagement

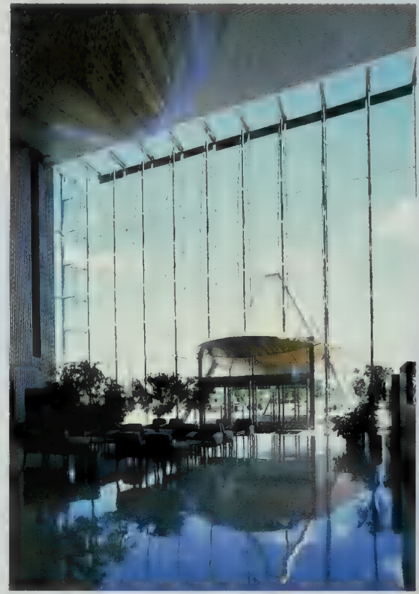
CIRCLE 58 ON INQUIRY CARD

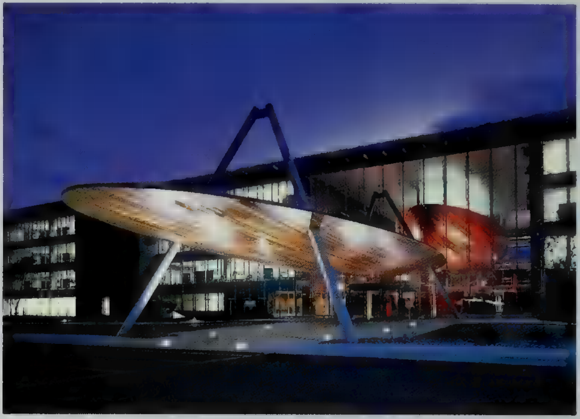
©2000 Pilkington
Sun Management™ System is a trademark of Pilkington

Project: Yazaki North American Office Building, AY-21, Canton, Mich.

Architect: *Plantec Architects, Tokyo, design architects; Stevens & Wilkinson Inc., Atlanta, architects of record*

Design/builder: *Shimizu America Corp., New York City*





Despite their beauty and apparent energy savings, true dual-glass skins are seldom used in the U.S. In fact, the system used on the Yazaki North American Office Building may be the largest example.

Yazaki is a supplier of electronic and electrical technology primarily to the automotive industry. The facility is composed of mostly research and development laboratories, though it also contains offices and a technical library. It was completed about one year ago.

The approximately 420,000-square-foot, four-story structure has a conventional curtain wall with a layer of glazing surrounding the exterior. This external layer creates an air gap, or corridor, that's about 10 feet wide. The glass panels are supported by a system of vertical steel masts and cables.

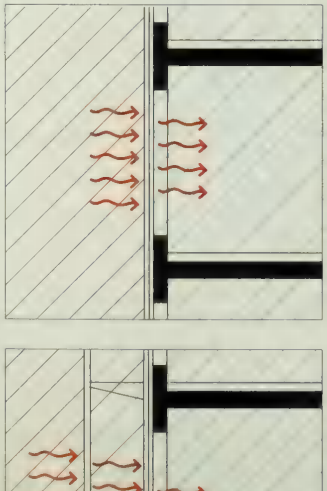
Motorized louvers at the base and top of the outer layer of glass allow fresh air to enter at the bottom and exhaust air to exit at the top. To limit heat loss on very cold winter days, the louvers are closed. The stationary air is warmed by the sun and by heat escaping from the building. In the summer, the facility is fully air-conditioned, though the air circulating through the corridor lessens solar gain.

It's a system that significantly boosts comfort levels, according to representatives of Shimizu America who, along with other members of the design team, traveled to Germany to see dual-glazed buildings. The team was impressed with the airflow dynamics of the German structures, as well as their beauty.

They were also astonished by the cost of the dual-glazed walls. In Germany, such a system is about twice the cost of a conventional curtain wall. In the U.S., however, a comparable system costs four to five times as much—a cost that may, perhaps, be justified for a structure that is architecturally progressive.

The building also features a dramatic canopy made by a boat builder of Philippine mahogany. A similarly boatlike structure houses the library, while highly reflective terrazzo floors simulate water.

Wendy Talarico



The insulating properties of the glass, as well as the layer of air in dual-glass facades, helps decrease the amount of heat that enters the building during hot weather (top). Conventional facades must either decrease the amount of glazing or simply rely on more air-conditioning to offset thermal gains (bottom).

between the building and the glazing creates bonus space, which can be used for meeting areas, gardens, or other purposes.

Partitioned gaps

Horizontal and vertical partitions divide the gap between the glazing layers in the partitioned-gap facade. This division influences fire protection, sound insulation, and natural ventilation, depending on which partition-gap system is used. Types include the following:

- Corridor facades, one of the most commonly used twin-face types, are divided with horizontal partitions at each floor. Fresh-air intakes and exhaust areas are located on each floor; the openings for each level are often placed above one another, alternating in a horizontal direction with the openings for the exhaust air. The construction of corridor facades demands more than an undivided twin-face facade due to the additional elements for the partitions and the number of ventilation openings necessary for each floor. The functioning of the facade improves, however. Overheating in the upper reaches of the building is reduced, as is noise transmission and smoke and fire spread.
- Shaft-type facades have vertical divisions in the gap between the glass layers, which create shafts for moving the extract air out of the building. Ventilated sections between the shafts draw fresh air into the buildin through double windows.
- Natural ventilation is better with shaft-type facades than corridor

CHAMELEON COLLECTION
Lifetime Warranty

C/S, the inventor of modern wall protection, breaks the mold once again. Introducing The Acrovyn Chameleon Collection, the only patterned wall protection guaranteed for a lifetime. That's right, a lifetime! because we've developed a proprietary fusion bonded technology that seals the pattern inside the protection. The Acrovyn Chameleon Collection, another reason nothing else is Acrovyn. For more information, call **1-888-621-3344** or visit **www.c-sgroup.com**.

C/S Acrovyn® Chameleon Collection™

CIRCLE 59 ON INQUIRY CARD

[illegible] fresh air enters the building via openings in the outer skin in the lower part of the double window. The exhaust air leaves the room in the upper part of the double window and enters the shaft through openings in the upper part of the partition between the shaft and the double window. As in a solar chimney, buoyancy forces due to temperature differences induce an upward flow of air in the shaft, thus improving air movement within the building by creating lower air pressure in the double window. Compared to other types of twin-face facades, shaft-type facades present problems with fire protection, noise, and the mixing of fresh and foul air.

TWIN-FACED FACADES CAN COST TWICE AS MUCH AS STANDARD CURTAIN WALLS, BUT ARE OFTEN WORTH THE EXPENSE.

▪ Double-window facades are more complex to build than other types of twin-face facades, because the gap between the inner and outer glass layers is divided vertically and horizontally. The facade consists of separate window units that have no immediate interaction with adjacent units. Separate ventilation openings are positioned with an offset in order to prevent the mixing of fresh and foul air.

Commonly used in office buildings, double-window facades reduce smoke and noise transmission within the air space due to the vertical and horizontal partitions. On hot, sunny days, temperature extremes within the facade are minimized by frequent ventilation openings in the outer skin. As in other twin-face facades, natural ventilation is possible much of the year. Other advantages of twin-face facades, such as nighttime cooling of the interior, mean considerable savings on cooling loads.

At what cost?

The various types of multiple-glass facades offer architects ways to enhance occupant comfort, reduce energy demand, and provide natural light and natural ventilation. But despite these advantages, they are seldom used outside central Europe. Experience and extensive testing by the designers of these structures prove that the facades can be easily adapted to other regions besides central Europe; indeed, they are occasionally used in parts of Japan and China.

The principal drawback in Europe and elsewhere is cost. In central Europe, twin-face facades are about twice the price of conventional curtain walls. In the U.S., they are likely to be four to five times more expensive. The extra costs are racked up by the expense of engineering these systems, the amount of special glass required, and an unfamiliarity with these systems among the trades, which leads to higher installation costs. In addition, mechanical engineers must think creatively (which often leads to more time and higher costs) about the heating and cooling loads and the type of hvac system used.

Despite the higher investment, twin-face facades are common among high-rises in central Europe, principally because energy prices are significantly higher in Europe than in the U.S., resulting in a faster return on investment.

But there is more to evaluate when considering a dual-glazed system than the hard costs. In central Europe, studies conducted by employers as well as engineers show that the satisfaction and productivity of those who work in buildings with these facades is higher, thanks to the many benefits that twin-face facades can offer, including natural ventilation, daylighting, and greater control over the workplace atmosphere. Depending on labor costs, the higher investment might be worthwhile. ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- ◆ Read the article "Cladding Buildings with Multiple Glass Skins" using the learning objectives provided.
- ◆ Complete the questions below, then check your answers [page 256].
- ◆ Fill out and submit the AIA/CES education reporting form [page 256] or file the form on ARCHITECTURAL RECORD's Web site at www.architecturalrecord.com to receive one AIA learning unit.

QUESTIONS

1. What is a dual-layered glass building facade and why is it used?

2. What problems are associated with undivided facades?

3. Which type of divided gap gives the best natural ventilation?

4. What are the differences between each of the principal types of dual-layered glass facades?

5. What are the advantages of using dual-layered glass facades?

C/S Expansion Joints at

Architect: Sir Norman Foster & Partners

One of the largest construction projects in the world, Chek Lap Kok Airport in Hong Kong is a superb example of how C/S solved a complicated expansion joint problem.

Employing over three miles of customized C/S Allway Structural Expansion Joint Covers, the specifications required 100% horizontal movement of the entire joint's width. And the system needed to be durable enough to withstand 35 million passengers each year.

C/S, working with Architects Sir Norman Foster and Partners, answered the challenge with a custom design that not only met the requirements but exceeded them by four times. C/S can surpass your expectations too, because our expertise is impossible to imitate.

For more information, call 800.539.8859 or visit our web site at *www.c-sgroup.com*

Chek Lap Kok Airport

CIRCLE 60 ON INQUIRY CARD

Walls of Ivy, Windows by Graham

Ivied Tyler Hall is home to the School of Business on the his campus next to Colonial Williamsburg.

Replicating windows on a campus founded in 1693, demands discipline of detail.

Graham Architectural Products was commissioned to replicate 308 original wood true-divided-light windows in hallowed Tyler Hall on the campus of The College of William & Mary, an historic institution of higher learning that boasts Thomas Jefferson among its illustrious alumni.

Architecturally authentic, smooth-operating Graham Series 2575 Double-Hung Aluminum Windows feature 3/4 inch insulating glass. Authentic colonial true divided light muntins replicate the original design. Custom aluminum exterior trim includes a colonial-style bull-nose sill that matches the original details.

Graham also furnished elegant arch-top Model Series 1550 fixed transom windows on 107 openings. Architect: Jonathan Taylor, Marcellus Wright, Cox and Smith, Richmond, VA.

If you want better performing windows, true to your school, be in touch with Graham.

Grand Expectations Command

Windows by Graham

Graham

Architectural Product

800-755-6274
Fax: 800-366-5097
www.GrahamArch.com

CIRCLE 61 ON INQUIRY CARD

Tech Briefs

Students commit to sustainable housing • Software marketers forge new alliances • Wearable computers may alter building design

IEW "ECODORM" HELPS STUDENTS LIVE IN COMFORT VHILE LEARNING ABOUT THE ENVIRONMENT

Students had plenty to say about their new dorm at Northland College, designed by Hammel Green and Abramson and associate architects LHB. The building includes photovoltaic and wind-driven energy sources, composting toilets, and a computer to monitor energy use.

Vith some projects, client desires nd demands leap ahead of standard design-and-build practices, hallenging architects to think in ew ways. This was the case with a ew residential hall at Northland ollege, a small, innovative school in shland, Wis., on the wooded hores of Lake Superior.

The 40,000-square-foot, 114-ed Wendy & Malcolm McLean nvironmental Living and Learning enter is not the average dorm. It is esigned to enable students to ace the often-frightening environnental footprints they leave in the ourse of their own daily activities. ne center's green technologies ame in response to students who anted the college to make an ecogical commitment; the school fers one of the leading liberal arts nvironmental programs in the ation. Not only did the design of ie dorm enhance the college's repation, but it also became part of orthland's curriculum. There is ven a seminar room within the orm where classes can be held to ach students about the technoloes used in the hall.

The two architects involved with this project, Hammel Green and Abramson Architecture in Minneapolis and associate architects LHB Engineers & Architects in Duluth, Minn., are committed to sustainability issues. But working with a band of zealous and idealistic students made this project unique.

Student input was solicited by the architects at several work sessions, each of which drew 50 to 70 young participants. From these "envisioning sessions" emerged the ideas for various products and technologies that were not typically associated with a residence hall. Priorities included selecting products and materials valued for their recycled content; wood harvested from forests that are certified sustainable; alternative energy sources, such as wind and solar power; a strong emphasis on indoor air quality, including natural ventilation and inert products; and composting toilets, located in two of the building's six-person apartments. Careful management of construction waste was important while the dorm was built.

"Students were adamant about integrating their concepts," says Dave Bercher, AIA, of Hammel Green and Abramson. "We tried to achieve as many as possible. It was as if we had made a promise to them."

In fact, the envisioning sessions resulted in "a memorandum of understanding" that set the environmental goals. All parties, including staff, students, administration, trustees, designers, engineers, and contractors, signed it. The memorandum "proved we all bought into the desired project outcomes," says James Brew, AIA, with LHB. The architects had the memorandum bound into the front of the project manual.

When budget issues arose, this document was critical in keeping the project's priorities straight. For instance, the renewable-energy systems, which include a wind-driven power generator, pole-mounted photovoltaic panels on the south side of the building that track the sun, and a solar hot-water heating system, would have been "easy to cut," Bercher says. "But the strong commitment to them as presented in the memorandum of understanding meant these items had to stay."

Alternative materials used include locally grown white cedar shakes, instead of western red cedar, which would have required transportation to the site. Biocomposite countertop materials use agricultural waste as an aggregate. Room furnishings—beds, desks, and shelves—are made of recycled plastic. Linoleum was selected for the floors instead of vinyl, which is energy-intensive to make and gives off dangerous chemicals in case of fire. Air-conditioning was exchanged for large operable windows, and cellulose insulation was beefed up to exceed the state energy code.

Nevertheless, these materials, as well as the innovative energy and plumbing systems, created code and construction problems. For example, the composting toilets, which were estimated to save 10,000 gallons of water per user per year, are widely used where sewer lines are unavailable or in areas not suited for septic systems. The center's two composting toilets, however, could not be included in the number of plumbing fixtures required by the Wisconsin state building code. "In short, they wouldn't allow us to substitute a composting toilet for a flush toilet," Bercher says. Additionally, the builder and subcontractor required more instruction and supervision to make sure they used the right products and installed them correctly.

To evaluate the facility's performance, the wind-generation and photovoltaic systems were hooked to a computer in a student lounge. That way, students can see the effects of their stereos and other appliances on power-consumption patterns.

As the dorm nears its first full year of occupancy, a year's worth of data is being tallied. Wind- and solar-power sources accounted for a small percentage of the energy needs but demonstrate to the students how well these systems can function. Air-quality ratings are on par with that of a quiet, uninhabited island in the middle of Lake Superior. Most important, the students recognized that they can have some impact on the quality of the buildings in which they live. *Todd Wilmert*

DIGITAL BRIEFS

WEARABLE, WIRELESS COMPUTERS LOOK TECHNO-CHIC AND BLEND CYBERSPACE WITH REAL SPACE Imagine navigating a complex building, such as an international airport terminal, without stopping to decipher signs, symbols, or other way-finding devices. Or traversing a college campus without the aid of maps or directories. These are just a few of the mind-bending possibilities of the emerging technology of mobile augmented reality.

What is mobile augmented reality? Says Steven Feiner, a professor at Columbia University's computer science department, "Augmented reality refers to the combination of real and virtual that assist the user in his environment." Typically, this involves a head-mounted display or eyepiece through which the wearer sees a computer projection of a virtual image superimposed on the real-world view.

Medical applications of such devices include displaying in a surgeon's eyeglasses a diagnostic CT scan image superimposed on the view of the patient on the operating table. Craftspersons could view computer-generated installation and service manuals while investigating the physical components they're assembling or fixing.

The computer that runs the display goggles or glasses to synchronize the virtual view with the real one must know where the user is and what that person is looking at. The location component relies on the well-established, satellite-linked GLOBAL positioning system (GPS) to pinpoint outdoor locations. Indoors, infrared transmitters at key points in a building, such as doorways or corridor corners, could provide location references. Motion tracking of the entire head, or just the user's eyes, allows the system to "know" where the user is looking. The selection of the computer image that corresponds to the user's location and point of view is downloaded via a wireless connection to the Internet, over the new Wireless Access Protocol (WAP), a communication process that connects Web sites to cell phones and similar devices.

A prototype of this entire system—including the display, the computer, GPS, motion tracking, and WAP components—is being tested by students at Columbia. The experimental mobile augmented reality system (MARS) allows users to "see" the classroom directory and class schedules within each building while walking around the campus. Another application allows users to request historic views of buildings on the university's site, superimposed on the current terrain.

Related work under way at the Media Lab, affiliated with MIT's School of Architecture and Planning, extends the wearable-computer concept to smart clothes, in which the wearer can interact with appropriately wired smart rooms, smart cars, and so on. Under the direction of Alex Pentland of the Media Lab, these initiatives make it possible for hybrids of real and virtual environments to recognize occupants and adapt to their expectations and behavior. Pentland suggests that architects will be freed from many design constraints based on circulation and adjacency because a building's computers will communicate with the occupants' wearable computers and tell them where to go and how to get there.

While few people could imagine walking around wearing the cumbersome MARS prototype, it may be techno-chic to don the next-generation augmented reality system prototypes from Charmed Technology, a Sherman Oaks, Calif., company to which Pentland is an adviser. These prototypes look like wired jewelry. Once such technology becomes affordable, it may spawn a transformation in building design. Construction processes will change as paper-based documentation yields to augmented reality projections. *Jerry Laiserin, FAIA*

MARKETING SOFTWARE FOR ARCHITECTS REVISITED Two new alliances between organizations involved in marketing tools for architects [June 2000, page 190] were recently announced. Both indicate that the strong demand for new construction and design services fuels new investment in computer products and capabilities for the profession.

First, Deltek Systems of McLean, Va., makers of Electronic Timesheet and Advantage financial management software, acquired the RFP proposal-generating software product line from A/E Management Services of St. Petersburg, Fla. Deltek, well established in the "back office" functions of project management, financial management, and human resources management for architectural and engineering firms, plans to use the RFP acquisition as a step toward integrating front-office functions, such as business development and presentations, into a comprehensive suite of professional service applications. Linking business software applications allows the diverse software to share common databases for greater efficiency.

Separately, the Society for Marketing Professional Services (SMPS), in Alexandria, Va., and Web-based service provider DesignArchitecture, of Wilton, Conn., announced that SMPS endorses DesignArchitecture's online Marketing Department Module as a preferred solution for SMPS members. Marketing directors and coordinators at many of the largest A/E firms make up the bulk of SMPS' membership. The Marketing Department Module provides easily updatable templates for simplified and inexpensive Web site development and maintenance. Also included in the Marketing Department is an online "lightbox" function for creating instant brochures that are customized to the information needs of a specific project or client prospect. *J. L.*

You can feel it. Strength. Confidence. Dependability. These qualities are obvious every time you walk through a Kawneer entrance.

THE KAWNEER ENTRANCE. IT'S LIKE A FIRM HANDSHAKE.

Kawneer entrances are built reliable. So they last. With a combination of four SIGMA deep penetration welds at each corner, a Kawneer door is virtually indestructible. But the door isn't the only element of the entrance system to take heavy abuse. That's why Kawneer engineers the entrance and frame hardware to withstand constant use and the rigors of the environment.

The Kawneer entrance. A great first impression. And a lasting one.

Kawneer®

The Mark of Responsibility

CIRCLE 62 ON INQUIRY CARD

© 1999 Kawneer Company, Inc. An Alcoa Company Technology Park/Atlanta 555 Guthridge Court Norcross, Georgia 30092 [illegible] www.kawneer.com

It's big. It's clumsy. And it's not too bright.

Sound like your architectural software?

You can continue plodding along with your current CAD software, or you can make the smart move to ArchiCAD. It can be mastered surprisingly fast, and only ArchiCAD has been designed specifically for architects. Really, isn't it time you raised your standards and let go of the past? Embrace the intelligent and integrated approach to building design and documentation.

SEVEN REASONS TO SWITCH

- Intuitive commands easy to master
- Fully AutoCAD compatible
- Remarkable efficiency gains and ROI
- Cutting edge presentation features
- Fully parametric objects
- Time-saving automatic documentation
- 30-day money back guarantee

GRAPHISOFT

Graphisoft and ArchiCAD are registered trademarks of Graphisoft R&D Rt

ArchiCAD®

www.graphisoft.com/ArchiCAD 800.344.3468
Visit or call for a FREE Presentation CD and the location of an ArchiCAD dealer near you.

CIRCLE 63 ON INQUIRY CARD

New Technologies for Old Buildings

By Jerry Laiserin, FAIA

Most discussions of computers, CAD, and other high-tech tools for design practice focus on how these technologies are applied to new buildings, materials, and methods of construction. Yet digital technologies are also important for projects that nvolve historic buildings, traditional materials, and old methods of construction. Designers have at their disposal an arsenal of analytic and descriptive tools that can enhance their understanding and stewardship of historic resources.

Such tools can be grouped into hree broad categories based on their unction and the project phases in which they're used: documentation, nvestigation, and presentation. Documentation includes tools for measuring, drawing, and modeling existing buildings. Investigation covers a slew of noninvasive and nondestructive testing techniques borrowed from fields such as manufacturing and civil engineering. Presentation includes innovative techniques for organizing and integrating old and new information in a single project.

Documentation

Any structure old enough to be considered historic—even those built as recently as the 1960s—was not esigned with computers. Paper rawings, if they exist, may be in oor condition or unreliable. Old rawings can be scanned as raster mage underlays (or backgrounds), o be used as a reference for new, measured, CAD-based drawings.

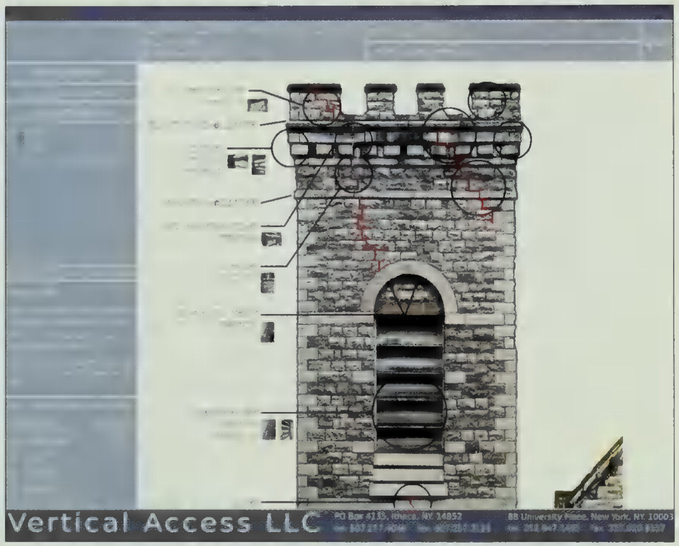
"Having access to the original drawings speeds up the redrawing in CAD from field measurements," says Michael J. Mills, FAIA, a partner and preservationist with Ford Farewell Mills and Gatsch Architects (FFMG) in Princeton, N.J. Mills recently used this process of scanning old images to create CAD-based drawings during the restoration of the 1905 Essex County Courthouse located in Newark, N.J., and originally designed by Cass Gilbert.

New drawings of historic buildings are often created so that they can be integrated into three-dimensional CAD models. Such models reveal aspects of the work that paper drawings cannot convey. When FFMG documented existing conditions for a building systems retrofit of Princeton University's neo-Gothic Graduate College, the toughest system to integrate was the bus ducts, risers, and cable distribution infrastructure for the university's telecommunications network. "The quality of the model-based documentation helped us detect conflicts and resolve placement of new piping and conduits with minimal intrusion on the existing building fabric," Mills says.

CAD also is indispensable in documenting buildings for which no reliable drawings exist. For example, during a seismic retrofit of the 1888 Hotel Del Coronado near San Diego, Architectural Resource Group (ARG) of San Francisco was called in to measure the building and trace its structure. The hotel, one of the largest wood-frame buildings in the world, does not necessarily conform to the original drawings and has been modified many times over the years. "Without the speed and accuracy of CAD, we could never have documented all of the structure," says Eric Rekdahl, AIA, with ARG. By carefully aligning drawing layers and superimposing the building's framing on different levels in the computer model, ARG was able to trace all load-bearing components from roof to foundation.

Because of a building's size, height, or other access limitations, direct measurement for CAD input is not always convenient or feasible. In such circumstances, several alternatives are available. One is photogrammetry, whereby accurate dimensions and 3-D CAD-compatible models can be extrapolated from stereoscopic photographs. One popular photogrammetry system is Photomodeler from Eos Systems.

A similar, but more direct, measurement technique is 3-D laser scanning, in which a tripod-mounted, computer-driven laser device scans a building interior or exterior in sequential "slices," much like medical magnetic resonance imaging devices scan the human body. The scanned spatial data measured by the laser device, such as the Cyrax from Cyra Technologies, produces a digital collection, or "cloud," of points in three dimensions that can then be reassembled via a CAD system into an accurate, highly detailed 3-D model of the space or building that was measured.


Vertical Access LLC
PO Box 4135, Ithaca, NY 14852
88 University Place, New York, NY 10003

An "interactive report" on the 1860s Gilbertsville First Presbyterian Church.

Detective Work

Building measurement in high or difficult-to-reach places can also be performed by trained specialists who combine the skills of steeplejacks or rock climbers with a knowledge of architecture. This specialized access method often is used in conjunction with direct physical inspection of the building fabric. Kent Diebolt, founder of Vertical Access in Ithaca, N.Y., offers such a service. "Before architects, engineers, and building conservators can decide what course to take

Contributing editor Jerry Laiserin, FAIA, *rovides strategic consulting services to rchitects and their technology providers.*

with a historic structure, they need to know more than just dimensions," Diebolt says. "They need to see what's underneath, behind, and inside the surface materials."

Diebolt, who has a background in construction, employs a range of nondestructive and noninvasive tools. And he uses them while dangling hundreds of feet off the ground, inspecting the sides of buildings.

Borescopes, or rigid bundles of fiber optics, can be inserted through small holes drilled in mortar joints to inspect conditions inside a cavity wall. Ultrasound devices can detect the thickness of homogeneous materials, such as metals, especially in roofing applications. And electromagnetic metal detecting equipment can locate both ferrous and nonferrous metals, such as steel reinforcing rods, wall ties, or cramps embedded in concrete or masonry.

According to Diebolt, high-tech testing, inspection, and measurement tools were initially developed in other fields, such as bridge and highway engineering or manufacturing-plant maintenance, where the cost and complexity of development could be economically justified (or, in the case of bridge inspection, mandated by law). As the technologies matured, they became available for other uses, such as building diagnosis. Although still too costly and complex to be used directly by average architects in general practice, such nondestructive testing can be used by specialists to "avoid destroying buildings in order to save them," Diebolt concludes.

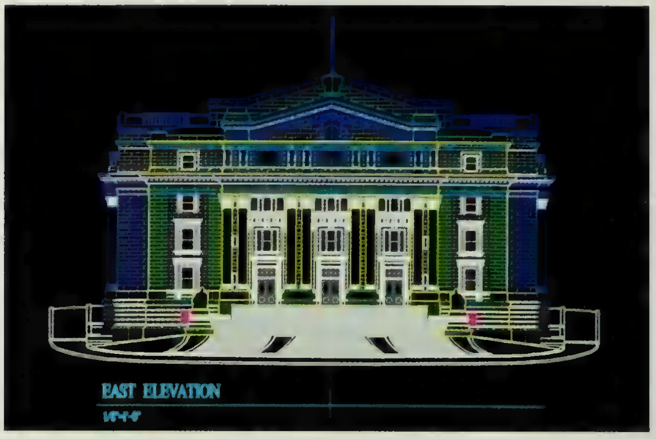
James W. Rhodes, FAIA, a partner and director of historic preservation at the New York City firm of Beyer Blinder Belle (BBB), also suggests techniques such as infrared thermography to identify hidden moisture conditions, and impulse radar to distinguish multiple layers of differing materials and the voids between them within wall, floor, or roof construction. Extensive information about all documentation and investigation techniques for historic buildings is available through the Association for Preservation Technology International and the National Center for Preservation Technology and Training.

On the Chrysler Building, a Vertical Access rappeller uses high-tech investigation tools.

Presenting results

Coordinating unwieldy collections of rolled drawings, bound reports, photographs, CAD files, and text can be a challenge, whether in the office or in the field. The information from documentation and inspection processes must be merged into report formats that are useful to designers, contractors, and craftsmen on a particular project, and to building conservators throughout the ongoing life cycle of a historic structure.

Using Macromedia Director software, Diebolt developed an innovative system for creating interactive, multimedia reports on CD-ROM disks. Says Diebolt: "We import AutoCAD documentation files into Director and, at each point of interest, we embed coded symbols and links to inspection results that may include text reports, digital photos or even streaming video captured from videotapes in high-elevation locations that the architect and engineer are unlikely to see firsthand. Then we burn the whole presentation onto a CD-ROM that anyone can play in any PC."



Ford Farewell Mills and Gatsch Architects scanned old drawings to create new digital images of the 1905 Essex County Courthouse in Newark, N.J.

One of the first of these interactive CD-ROM reports was prepared by Diebolt for a project by Crawford and Stearns Architects of Syracuse for the nearby Gilbertsville First Presbyterian Church, an 1860s stone structure.

As technology advances, presentations are no longer static, one-time documents. Rhodes of BBB says, "Architects must recognize that we are intervening in the midlife of a building. It often is necessary to set up testing procedures for ongoing monitoring of a building's condition and the durability of current repairs."

FFMG's Michael Mills sees a role for the Internet in such monitoring and reporting. "The Web is becoming the preferred channel for disseminating professional information within the preservation community." For example, strain gauges or other monitoring devices can beam their output directly to a project's Web site, enabling continuous observation from remote locations. Webcams, digital video cameras directly linked to the Internet, can allow visual inspections by architects and conservators unable to visit a structure or gain physical access to portions of it. And interactive reports, such as Vertical Access' CD-ROMs, can be published on the Web, so that the entire historic project team can engage in a collaborative review at any time and from any location.

Over time, it is likely that "historic structure-specific Web sites" will emerge, serving as both repositories and clearinghouses for all documentation, investigation, and presentation information about a building. Architects and conservators, equipped with high-speed Internet connections and simple browser software, will be able to review scanned original drawings, photographs, measured CAD drawings and models, and every manner of inspection and test report.

Linked to the history of prior repairs and interventions as well as to real-time instrument readouts from ongoing monitoring efforts, such building-specific sites will prove invaluable in managing and conserving our historic resources. In a sense, the most advanced technologies are making all that was once old new again. ■

WWW *For more information about digital technology vendors that deal with historic buildings, go to* **Digital Architect** *at:* **www.architecturalrecord.com**

»DESIGN
»ANALYSIS »PROJECT COLLABORATION
»BUILDING PRODUCT INFORMATION
»BIDDING & PROCUREMENT
»CONSTRUCTION »PROFESSIONAL FORUMS
»E-STORE »NEWS AND INFORMATION
»FACILITIES MANAGEMENT »PERSONALIZED CONTENT

The place for projects.

Smarter.

Faster.

More Profitable.

bricsnet.com

THE E-MARKETPLACE FOR THE *global building industry.*

CIRCLE 64 ON INQUIRY CARD

Courtesy of Wolverine Vinyl Siding, Valley Forge, Pa.

Vinyl By Design:

A Proven Material in the Built Environment

In selecting building materials, architects know from education and experience what characteristics make a material appropriate for a given design application. Steel, concrete, wood, glass, textiles, stone, brick and plastics all make up a palette of building material choices having inherent advantages and disadvantages depending on the application.

The plastic used most in building applications is vinyl, or polyvinyl chloride (PVC). Vinyl is a versatile, durable material that can be made rigid or flexible, textured or smooth, and in nearly any color or shape. Blending many attributes of traditional materials with advanced technologies, vinyl is a proven material in the built environment. In the United States, two-thirds of all vinyl manufactured is used in building and construction applications, including flooring; wallcovering; piping; siding; roofing; electrical materials; fencing, decking and railing; and windows.

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read **Vinyl By Design: A Proven Material in the Built Environment.** To earn one AIA/CES Learning Unit including one hour of health safety welfare credit, answer the questions on page 196 and follow the reporting instructions on page 256. Or use the Continuing Education self-report form on *Record's* Web site—www.architecturalrecord.com.

LEARNING OBJECTIVES:

- Describe the inherent characteristics of vinyl.
- Explain the development of vinyl as a building material.
- Discuss vinyl's impact on the future of building materials.

This continuing education section will explore vinyl's inherent characteristics as a building material, its invention and development, the manufacturing process for vinyl and vinyl building products, and what the future holds for vinyl in the built environment.

INVENTION AND DEVELOPMENT

Vinyl's Beginning. Although scientists first synthesized vinyl in 1872, no scientist had done anything more than study and record its properties until 1926, when Dr. Waldo Semon, a researcher with The BFGoodrich Company in Akron, Ohio, began to experiment with it.

Searching for materials that could replace rubber in tires at a time when the supply of natural rubber was dwindling, Dr. Semon mixed certain additives into the compound, producing a flexible substance that was waterproof and versatile. The revolutionary new material was put to use in coated fabrics, rainwear, shower curtains and shoes. Vinyl provided water-resistant qualities that no other material could provide.

One of the first commercial uses for vinyl in the built environment was as wire and cable insulation, replacing the heavy rubber insulation and textile jacketing so prone to damage and dampness. Vinyl's use in electrical applications represented a major advancement in fire safety, since vinyl has inherent fire-resistant characteristics. The U.S. Armed Forces were among the first to adopt vinyl-jacketed wiring during World War II, after a fatal submarine fire involving rubber and textile cables.

Decades of Vinyl Growth and Expansion. In the post-war years, vinyl's use in buildings grew rapidly. Facing a major rebuilding challenge and a shortage of traditional materials, German manufacturers developed window frames from this new material. These windows had a bulky, heavy-duty appearance that German consumers wanted, but which was not well accepted by Americans who were accustomed to larger viewing areas and narrower frames. Vinyl windows were later reintroduced to the U.S. marketplace in styles similar to wood and aluminum, and grew quickly in popularity.

Building upon its success as a waterproof material, companies began to use vinyl to coat wallpaper, making it more durable, washable and stain-resistant. Vinyl composition tile also emerged, challenging cork, rubber and linoleum flooring with superior durability and a wider range of styles.

In the 1950s, PVC pipe from Europe was introduced to U.S. municipalities, farmers, and home and building owners as an inert, durable and low-cost alternative for potable water delivery, sewage collection and industrial/agricultural applications.

The 1960s saw the first use of vinyl in exterior siding, although it was more expensive than wood and aluminum and slow to catch on. More efficient manufacturing techniques, lower prices and improved quality – and the rising costs of aluminum – eventually spurred vinyl siding's growth, taking it to its place today as the dominant material for this application.

In the 1970s, vinyl single-ply roofing systems came to the U.S. and were embraced as a clean, quick, safe and less costly alternative to asphalt built-up roofs. Some of those early vinyl roofs are still in use and performing well today. Vinyl roofing is now one of the fastest growing segments in the low-slope commercial roofing marketplace.

Vinyl entered the 1980s as a well-accepted building material, and new applications continued to evolve, including fencing, decking, railing and other exterior accessory products. Fencing was the first of these to gain market acceptance, especially by horse farm owners weary of painting miles of wood fencing. An added plus: horses didn't chew on vinyl fences as they did on wood.

In the 1990s and today, vinyl is playing a role in many of the most advanced technologies found in the built environment while helping make today's homes and buildings easier to maintain, more durable and more affordable.

HE MANUFACTURING PROCESS

Vinyl is derived from petroleum (or natural gas) and salt. Petroleum/natural gas is heated to create ethylene; salt is subjected to electrolysis to separate out the natural element chlorine. Ethylene and chlorine are then combined under heat to make vinyl chloride monomer gas, which is converted into a fine, white powder – vinyl resin.

Compounding and Processing. One more important step – compounding – remains before the resin becomes a usable material. Combining resin with selected liquid and powder additives and modifiers, followed by re-heating and cooling, produces small, hard pellets the size of BBs. In this form vinyl can be re-melted at any time and made into final products. Depending on the additives "package" selected, vinyl can be made flexible enough for wallcovering or rigid enough for pipe, can have nearly any texture or pattern, and can be made clear or in virtually any color. Its durability, resistance to the elements and fire performance are all characteristics affected by the compounding process.

PROCESSING TECHNIQUE		SELECTED APPLICATIONS
Extrusion **see photo below*	Compound is heated and forced through a die to form long lengths of product.	Pipe, siding, windows, fencing, decking
Injection molding	Heated compound is injected into a hollow, three-dimensional mold.	Electrical outlet boxes, exit signs, smoke detectors, pipe fittings
Calendering	Compound is compressed through a set of rollers to form film and sheet of various widths and thicknesses.	Flooring, wallcovering, roofing
Thermoforming	Three-dimensional forms are made using heat and pressure to shape rigid vinyl sheet.	Drain pans, water collection basins, shower surrounds
Coating	Products are dipped or spread with vinyl resin dispersed in a solution.	Carpet backing, closet shelving, single-ply roofing

Courtesy of Royal Crown Technologies Limited Woodbridge, Ontario, Canada

The small pellets of vinyl compound are melted and shaped into the desired end product. The various processing and fabrication techniques used to make vinyl building products provide added versatility. The table above describes the major processing techniques and the common building products which result from them.

Environmental Impact. The vinyl resin manufacturing process is closed, automated and high tech, and nearly all waste is recycled back into the process. The little waste that remains is treated and disposed of according to strict regulations.

A lifecycle assessment (LCA) conducted by Franklin Associates, which specializes in LCA research, determined that vinyl production accounts for a fraction of one percent of all U.S. oil and gas consumption. The same study compared the manufacturing processes for vinyl and aluminum windows and determined that vinyl used about three times less energy.

Nearly all manufacturers of vinyl products recycle their production scrap back into the manufacturing process, meaning that nearly all vinyl products contain some post-industrial recycled content. This waste source-reduction was confirmed by Principia Partners, who recently found that more than 99 percent of all vinyl manufactured ends up in a finished product.

THE MATERIAL AND ITS ATTRIBUTES

Durability. Vinyl exhibits exceptional durability compared to alternatives in most building applications. A prime example is vinyl single-ply roofing. Vinyl membranes manufactured using a unique spread coating process have withstood the elements for more than 30 years. And vinyl is the material of choice for flooring and wallcovering, particularly in areas prone to heavy traffic and abuse such as healthcare environments.

Buried PVC pipe can be conservatively expected to serve for many decades, with no build-up, scaling, pitting or rusting. The National Research Council of Canada found the break rates of PVC pipe to be a fraction of those for metallic pipe.

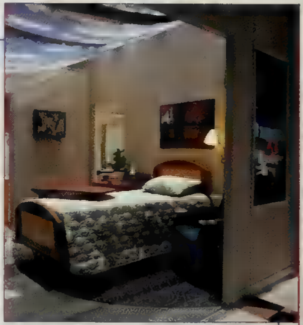
Energy Efficiency. Many vinyl building products save additional energy in use. In residential windows in particular, vinyl transfers heat more slowly than aluminum and some clad styles of window frames. With a U-value range of 0.3-0.5 vs. 1.0-2.2 for aluminum, utility costs are kept low.

Single-ply vinyl roofs, which are typically reflective white or gray, also make a positive contribution to energy efficiency. Research from the U.S. Environmental Protection Agency, the National Aeronautics and Space Administration and the federal Department of Energy has shown that reflective roofs may lower a building's air conditioning costs by up to 40 percent.

Vinyl Institute photo by Doug Walker

IN THE HEART OF LUMBER COUNTRY, CUSTOM HOME OWNER INSISTS ON VINYL

When former professional wrestler Bill Savage and his wife Betty retired to a quiet spot by the Willamette River outside of Portland, Ore., they built their dream house – a 6,000-square foot custom home with a price tag of more than a million dollars. Aesthetics were important to them, but so was low maintenance, so they insisted on vinyl siding. When they approached Portland-area builder Rick Lesniak of Blazer Development, he had to be convinced. "I have completely changed my mind about vinyl siding," said Lesniak; the Savages say neighbors insist on touching the house before they'll believe it's vinyl.



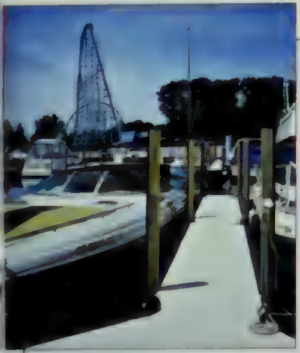
AWARD-WINNING HEALTHCARE SETTING REALIZED USING BROAD ARRAY OF VINYL PRODUCTS

Evolving a prototype of a long-term care facility room for a cognitively aware, physically frail resident encompassing both quality of life for the resident and superior functionality for staff was the objective of JSR Associates, Inc. (Ellicott City, Md.) and Mannington Commercial (Calhoun, Ga. and Salem, N.J.). Vinyl proved to be the winning ingredient in the ultimate result: the Mannington Commercial LifeCare™ Experience, which received an honorable mention in the Nightingale Product Design Competition at the 1999 Symposium on HealthCare Design. The resident room and adjacent spaces vignettes included vinyl wallcovering, flooring, handrails, bumper guards, transition strips and vinyl-backed carpeting. "Vinyl interior products are often utilized within long-term care settings due to their cleanability, durability, vast color selection and cost effectiveness," said Jane Rohde, AIA, IIDA, Principal of JSR Associates. "Demonstrating the complete environment by integrating 20 cooperating manufacturers' products was the innovative aspect of the exhibit design."

Fire Performance. Vinyl building products are based on a naturally fire retardant polymer, meaning that generally they are slow to catch fire, their flame spread is slow and they cease to burn after the flame source is removed.

Firefighters recognize that a fire's most toxic by-product is carbon monoxide. When burning, all organic materials produce carbon monoxide to varying degrees. Vinyl produces less than most, which is why vinyl is often specified for use in buildings. Third-party organizations such as the National Fire Protection Association (NFPA) have concluded that fires involving vinyl – and the associated smoke – are no more toxic than any other fires. Indeed, vinyl is one of the few materials meeting the stringent NFPA requirements for insulating electrical and data transmission cables, including in plenum applications.

Generally, vinyl building products are associated with low fire hazard and risk. The precise fire performance characteristics of any building product, including vinyl products, vary; specifiers should check with manufacturers to determine whether a given product can meet applicable codes and standards.



VINYL DECKING IS THE RIGHT CHOICE FOR CEDAR POINT AMUSEMENT PARK

When Terry Ross, AIA, corporate architect for Cedar Point amusement park and resort, needed to replace a section of its 660-boat marina, he surprised himself by choosing a vinyl decking product made by Thermal Industries (Pittsburgh, Pa.). "I had to be convinced that vinyl was the way to go," Ross said. Cedar Point, the second oldest amusement park in the country, is in Sandusky, Ohio, right along Lake Erie. Not only does the area experience temperature extremes, ranging from below freezing to the high nineties, but everything at the park is exposed to high foot traffic and abuse by nearly 3.5 million visitors a year. Before choosing vinyl Ross conducted half a dozen tests including one in which he delivered a direct blow to the material with a hammer. He even went as far as to freeze the product to see if it would crack or split. "Northern Ohio weather is brutal on any decking product," Ross added. "We've been through a full season with the vinyl deck and we like it so much that we are going to replace more of the marina's docks with the product," Ross said. He also discovered that vinyl wasn't as hot on boaters' feet, and it was easy to clean with just a garden hose. "There are a lot of seagulls at the marina, and it is easy to hose down; not only that, I don't have to worry about splinters and wood pops."

Low Maintenance. Because colors are compounded into vinyl products early in the manufacturing process, they do not need paint, stain or other surface treatments to maintain their original appearance. Vinyl siding certified through a program sponsored by the Vinyl Siding Institute to meet or exceed the ASTM D3679 standard ensures that vinyl siding retains a uniform color over time without chipping, cracking, peeling or flaking, like paint would.

Vinyl products are known for being easy to keep clean. A hard rain or occasional pressure washing is typically sufficient for exterior products such as siding or fencing. Inside, vinyl minimizes hiding places for dust, dirt and allergens. Employees of hospitals, schools, assisted living facilities and other institutions generally find vinyl wallcovering and flooring easy to keep clean and sanitary.

Recyclability. Vinyl is unique among all plastics because about 70 percent of it is used in products expected to last 10 years or more. This durability (and the relative youth of most vinyl markets) means that most products are still in service. Nevertheless, many companies actively promote recycled content in and recycling of vinyl building products. Notable examples include Collins & Aikman Floorcoverings, Inc. (Dalton, Ga.), which markets commercial carpets with 100 percent recycled-content vinyl backing, and Re-New Wood, Inc. (Wagoner, Okla.), which manufactures roofing shingles made from recycled vinyl and waste sawdust.

LOOKING TO THE FUTURE

The future of vinyl building products is bright. New additives and innovative manufacturing techniques are creating entirely new applications for vinyl, including:

- **Durable Semi-Structural Applications.** A new composite material made of vinyl and reinforced by fiberglass enables manufacturers to produce building systems that could replace wood and metal for many uses. The company that developed the technology, Decillion LLC (Toledo, Ohio), a joint venture of Owens Corning and The Geon Company, has produced a material system that has three times more structural stiffness and dimensional stability than typical vinyl building materials. Of particular importance is the material's much higher heat distortion temperature, allowing it to be utilized in situations previously beyond vinyl's reach.
- **Innovative Building Systems.** Royal Building Systems (Cdn) Limited (Woodbridge, Ontario, Canada) has developed interlocking hollow vinyl extrusions known as The Royal Building System™ (RBS). The RBS is filled with concrete and serves as the finished walls of a structure, which can receive any number of common surface treatments. This system has been used around the world for single-family and multi-family homes, office buildings, factories, car washes and other commercial construction. It fills a particular need for affordable yet durable housing in developing nations, where homes constructed using the system have withstood weather extremes such as hurricanes, earthquakes and flooding that other construction methods could not. The RBS vinyl walls are also termite-resistant.
- **Composite Materials.** CertainTeed Corporation (Valley Forge, Pa.) has developed a line of windows made from an innovative vinyl composite containing wood fibers. The wood fiber material is molecularly bonded to the frame and sash, and does not peel, crack, warp or rot. The window has the same energy efficiency of a vinyl window but can be painted or stained.

Today, vinyl is being used in new and exciting ways, giving architects and designers more options on their palette of materials. For more information about vinyl, or to find out about other continuing education opportunities offered by the Vinyl Institute, visit www.vinylbydesign.com.

vinyl by design

LEARNING OBJECTIVES:

- Describe the inherent characteristics of vinyl.
- Explain the development of vinyl as a building material.
- Discuss vinyl's impact on the future of building materials.

INSTRUCTIONS

Refer to the Learning Objectives above. Complete the questions below. Then turn the page upside down and check your answers. Fill out the reporting form on page 256 and submit it or use the Continuing Education reporting form on *Record's* web site www.architecturalrecord.com to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS:

1. How and why did vinyl become a standard building material?

2. What inherent characteristics of vinyl make it a good building material?

3. What impact has vinyl had on selection of building materials?

4. How does vinyl behave in a fire?

5. Why is vinyl often used in healthcare and other institutional environments?

ANSWERS:

1. Vinyl's longevity and acceptance in the built environment stems from the fact that it has consistently offered better performance than many traditional materials in certain applications. It came into use as a building material prior to World War II, when it was introduced as wire and cable insulation, replacing heavy rubber insulation and textile jacketing. After the war, vinyl's use in buildings grew rapidly. It was used in window frames, to coat wallpaper, and then introduced as a flooring material with superior durability to cork, rubber and linoleum. In the 1950s vinyl was introduced for water and sewage pipe. In the 1960s it was introduced for exterior siding, and in the 1970s for flat roofing. It was continually improved and by the 1980s vinyl was an accepted building material. New applications in both exterior and interior building products have evolved over the past 20 years and continue to evolve.
2. The characteristics are durability; energy efficiency; fire performance; low maintenance, and recyclability. In addition, vinyl resin's ability to combine with additives and modifiers in the compounding process means that vinyl is versatile – it can be made flexible enough for wallcovering or rigid enough for pipe, can have nearly any texture or pattern, and can be made clear or in virtually any color. Its durability, resistance to the elements and fire performance are all characteristics affected by the compounding process.
3. Vinyl blends many of the attributes of traditional materials with advanced technologies to produce a material with nearly unlimited possibilities for use in the built environment. The continuous evolution of vinyl's performance capabilities virtually ensures the material we know today as vinyl will be capable in the future of use in applications not previously thought possible. Further, vinyl's inherent recyclability means that we are likely to see more and more building products containing recycled post-industrial and/or post-consumer content. The result is the creation of entirely new building products.
4. Building codes govern the performance of building materials in a fire. Vinyl building products are generally slow to catch fire, their flame spread is slow and they cease to burn after the flame source is removed, because they are based on a naturally fire retardant polymer. Vinyl produces less carbon monoxide than most other organic materials, which is why it is often specified for use in buildings. Third-party organizations such as the National Fire Protection Association have concluded that fires involving vinyl – and the associated smoke – are no more toxic than any other fires.
5. Employees of hospitals, schools, assisted living facilities and other institutions generally find vinyl wallcovering and flooring easy to keep clean and sanitary. In addition, vinyl can enhance the hygiene of buildings and indoor air quality by minimizing hiding places for dust, dirt and allergens.

Jeff Terry, Director of Industry Affairs - Rigid
(vinyl windows, siding, fencing, decking & railing, pipe)
703-253-0669
jeff_terry@plastics.org

Mark Sofman, Director of Industry Affairs - Flexible
(vinyl roofing, wallcovering, flooring, wiring)
703-253-0667
mark_sofman@plastics.org

vinyl by design

The Vinyl Institute • 1300 Wilson Blvd., Suite 800 • Arlington, VA 22209
www.vinylbydesign.com
Circle ■ On Reader Service Card

irmont's Luxury Business Hotel

- at the Vancouver International Airport

ure walls of
hick Cast
ered Glass in
ination with
rchitechturally
ned and
c engineered
ved hardware
ns.

n porous Cast
s virtually
enance free,
ble in 22
s textures
ign to suit.
from
ble finishes.

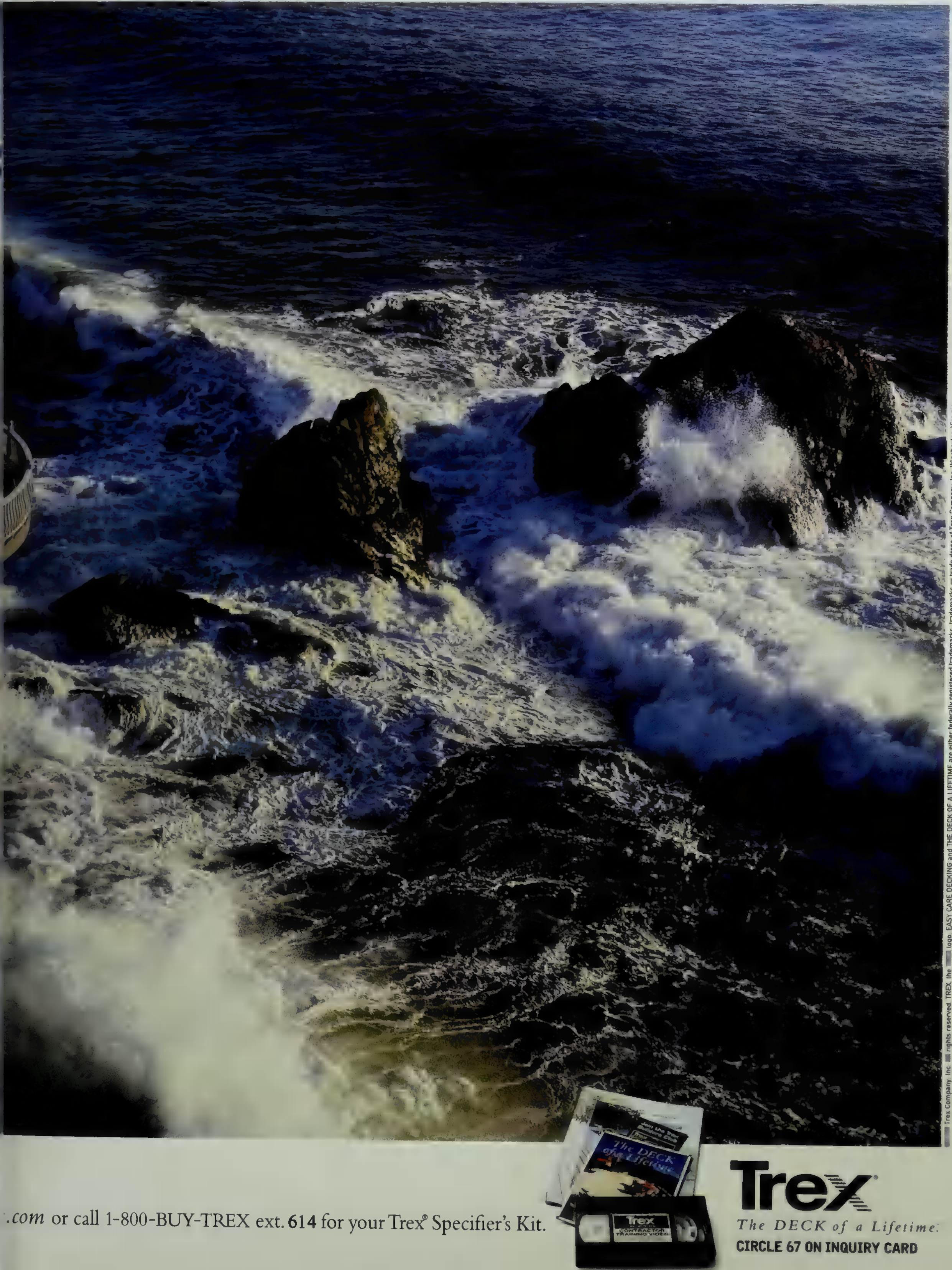
For USA and
rnational Sales,
- contact
ry Meppelink.

N 66 ON INQUIRY CARD

tudios Inc.

THERE WAS A TIME
WHEN YOU COULD *Only* BUILD IT IN YOUR HEAD.

Freedom to create what you once only dreamed possible. Trex® Easy Care Decking®. No sealing. No splinters. No li



.com or call 1-800-BUY-TREX ext. **614** for your Trex® Specifier's Kit.

Trex®

The DECK of a Lifetime.

CIRCLE 67 ON INQUIRY CARD

[illegible] Trex Company, Inc. [illegible] rights reserved. TREX, the [illegible] logo, EASY CARE DECKING and THE DECK OF A LIFETIME are either federally registered trademarks, trademarks or trade dress of Trex Company, Inc. Winchester, Virginia.

Half the fun of being an architect is finding a balance between design and functionality. That's what makes Andersen® products so ideal. For the creative right side of your brain, there are over 200,000 shapes and sizes. Plus unique profiles, slender frames and clear pine interiors that can be painted or stained to complement each room. And for your more practical left side, the exclusive Perma-Shield® System of building, backing and servicing windows and doors helps ensure your designs will last. All things considered, who could argue with that? For more information, call 1-800-426-4261, ref.# 3184.

Worryproof. Timeproof. Andersen Windows.®

CIRCLE 68 ON INQUIRY CARD

www.andersenwindows.com

Andersen
AW
Windows·Patio Doors

00-5B1 Call 1-800-426-4261 for a copy of the Andersen 20/10-year warranty. "Andersen," the AW logo and "Perma-Shield" are registered trademarks of Andersen Corporation. © 2000. All rights reserved.

RESIDENTIAL

Sometimes a 28-square foot addition does the trick. Other times a whole new house is required.

 some languages, the word crisis is synony-
ous with opportunity. In renovating a house
 building something new, the owners and
chitect have an opportunity to reinvent the
main—and to some degree themselves. It's
process that's often accompanied by at least a few crises.

Architect and owner Martha Finney, who built an addition
 and renovated a crumbling stone house in Philadelphia, had her
are of crises between coping with dead animals, knee-deep trash,
d walls that yielded to the anchor bolts she tried to sink.

The Fitch/O'Rourke's had their troubles too. Working with
obert Gurney, AIA, the couple took a year to design—and
design—their Washington, D.C., townhouse.

Berkeley, Calif. architects David Arkin, AIA, and Anni Tilt
d a different kind of challenge in the Hester/McNally House: to
expensively improve a funky 700-square-foot bungalow using
stainable materials and a 28-square-foot addition.

The metal-sided house in the suburbs outside Seattle by
iller/Hull Partnership included a few crises/opportunities as well.
ere's a house that defies convention just as it strives to set some
w standards. Its hybrid metal and wood frame, the commercial
mponents paired with residential ones, its unique floor plan, and
at metal skin all break from the traditional while lunging at the
novative. We invite you to see the inventive results of these strug-
es in the pages that follow. *Wendy Talarico*

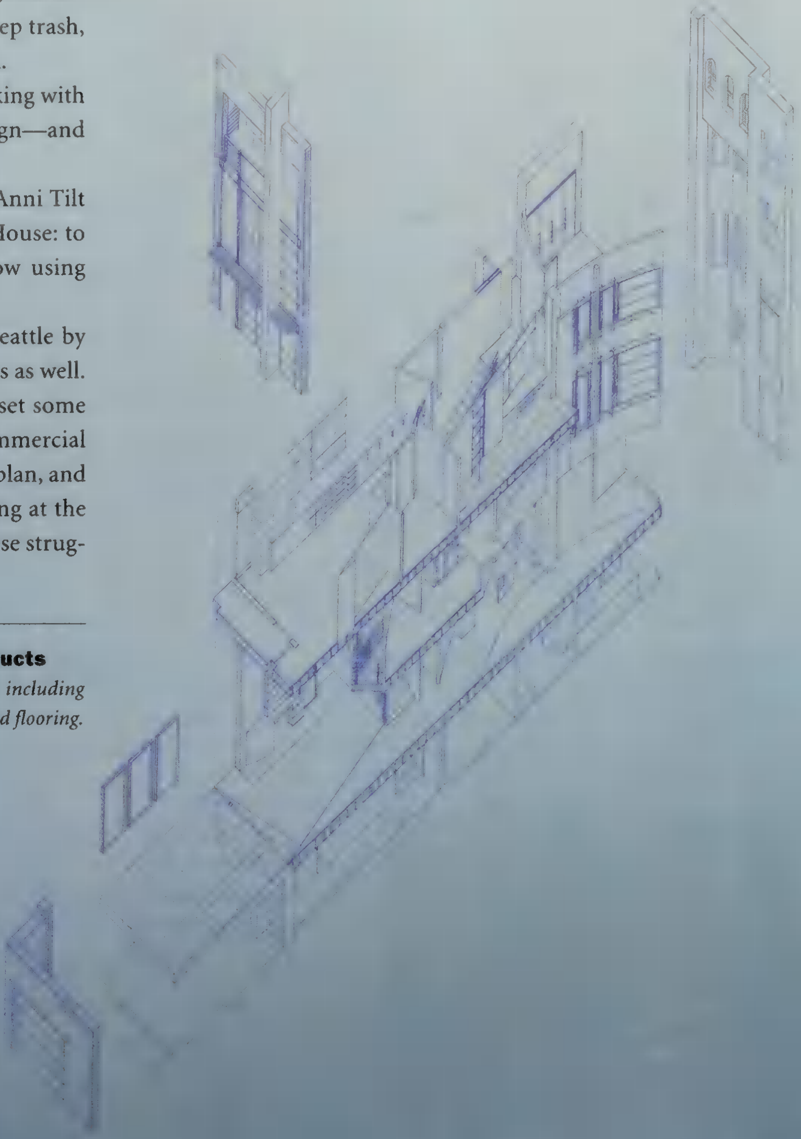
---

2 **Residential Briefs**

4 **Metal Siding in the Suburbs?**
The Miller/Hull Partnership's new house makes the suburbs livable.

0 **Renovations and Rebirths**
An old townhouse in Washington, D.C.; a stone house in the wilderness of Philadelphia; and a tiny bungalow in California all take on a new look.

231 **Residential Products**
Renovation products, including porch parts, doors, and flooring.



A NEW ADOBE URBANISM SPRINGS UP IN SANTA FE

Santa Fe's style stems from its jumble of adobe buildings and narrow roads that make it a pleasant place to live and walk. But thousands of recent arrivals have SUV lifestyles miles away in sprawls of houses on big lots.

A "New Urban" development called Aldea de Santa Fe will offer an alternative where one can live, work, shop, go to school and play without a car. It mixes sizes of residences with shops and offices around a plaza, town hall and school, with generous amounts of open space, pedestrian trails, narrow roads, and small blocks. The design is by architects Andres Duany and Elizabeth Plater-Zyberk, known for Seaside, Fla., as seen in the film, "The Truman Show." The architects' Miami firm, DPZ, has 30 similar developments to its credit, but this is the first in a Santa Fe style. "Not only will Aldea continue the Santa Fe architectural style, but it will reintroduce Santa Fe style urbanism that has been lost," said DPZ project manager Jeff Speck.

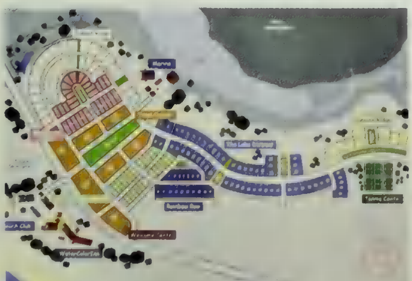
Aldea, Spanish for village, is four miles west of downtown. A partnership of 14 families plan 433 units on 344 acres, with buildings clustered on 139 acres so 205 acres remain undeveloped. Lots will go for $69,000 to $120,000 each, for homes estimated at $180,000 to $600,000. "It's not because we're nostalgic," said partner Alan Hoffman who has worked on the project since 1994. "It's because we've looked at everything else that's been built in the last 50 years and it didn't work. It lowered people's quality of life." *Thomas H. Sharpe*

In Brief

I've Only Got Eyes for You A residential laboratory at Georgia Tech that is connected via broadband communications opened recently to study how technology interacts with and affects domestic lifestyle. One experiment under way at the three-story, 5,040-square-foot residence is the "Aware Home," an environment where computers are constantly present, seamlessly integrated into the domestic environment, assisting with everyday activities. The home senses inhabitants by seeing, hearing and measuring contact through a variety of technologies, including video, audio, motion, and load. According to Dr. Nikil Jayant, Broadband Institute Director, "One of the goals is to discover technology combinations that can obtrusively enhance lifestyle in the home of the future—both for special classes of inhabitants such as older citizens and infants and for families in general." Researchers expect such aware technology to work its way into the mainstream within a decade. *Jane F. Kolleeny*

NextGen Housing Factory-built economy housing has been brought to a new level of quality, durability, energy efficiency, and visual appeal. Known as the "NextGen" house, this innovative "green" residence was recently unveiled as a rental property for the Danbury, Conn., Housing Authority. Energy performance is one of the projects biggest achievements—exceeding performance requirements by nearly 20 percent, representing a $180 reduction in annual energy costs to the homeowner. The three-bedroom, two-bath house is composed of two factory-built sections, quickly and efficiently manufactured, so that the finished 1,200-square-foot house costs $90,000 including land, whereas a comparable new house would sell for $200,000. Designed by Steven Winter Associates of Norwalk, Conn., NextGen is a demonstration project for the Partnership for Advanced Technology in Housing (PATH), a voluntary public/private sector initiative, administered by HUD, that seeks to improve the nation's housing stock. *JFK*

A TOWN CALLED "WATERCOLOR"



Seaside, the 80-acre town that launched New Urbanism, turns 20 this year. If imitation is the sincerest form of flattery, then one need only step beyond Seaside's borders to the adjacent new town of WaterColor to prove that aphorism. WaterColor received final approval last winter, and its developer, the St. Joe Co., launched an ambitious construction schedule in time for the summer tourist season. WaterColor is a far bigger and more ambitious project than Seaside, however. WaterColor will eventually have 1,140 dwelling units (cottages, townhouses, apartments), beach and tennis clubs, an inn, and commercial development.

With a plan by the New York architect Jacquelin Robertson, WaterColor is a hybrid of Seaside and the Walt Disney Co.'s new town of Celebration near Orlando, Fla. Robertson and Robert A.M. Stern were master planners for the Disney town. Like Celebration, the design guidelines for WaterColor are contained in a pattern book put together by the architect Ray Gindroz of the Pittsburgh-based firm, Urban Design Associates. The pattern book outlines the allowable architectural building types drawn from historic architecture, most of it with regional vernacular precedents, and specific elements—windows, doors, trim, detailed for the builder.

A hotel, designed by David Rockwell of New York is under way. Robertson designed the other buildings now under construction, which include a beach club and "downtown," with three-story buildings with shops below and offices and condos above. *Beth Dunlop*

"Can this be legal?" he queried.

Interior Design Firm - *Alan J.E. Deal & Associates, Inc.*
Location - *Wulfmeier & Ottenwess / shown above - partner's executive office*

Products - *Sherwin-Williams ProMar®*
Project Paint Colors - *Sherwin-Williams ColorAnswers®: Hematite SW1014 | Ermine SW1023 | Landmark Gray SW1036 | Leatherleaf SW1167 | Artful Auburn SW1308 | Luminary Gold SW1362 | Gem Turquoise SW1474 | Melbourne Coast SW1475 | Truly Teal SW1476 | Crowning Glory SW1532 | Grapevine SW1546 | Cabaret Purple SW1553 | Renoir Red SW1609*

An appeal to design.

was a most successful case: Alan J.E. Deal & Associates deftly negotiated a merger of individual tastes when the design firm recently created a new suite of offices for Detroit's Wulfmeier & Ottenwess law practice. Though prudence mandated that the unique styles of the firm's two partners be duly represented in the 5,000 square foot repurposed space, in reality, their design perspectives were dramatically diverse.

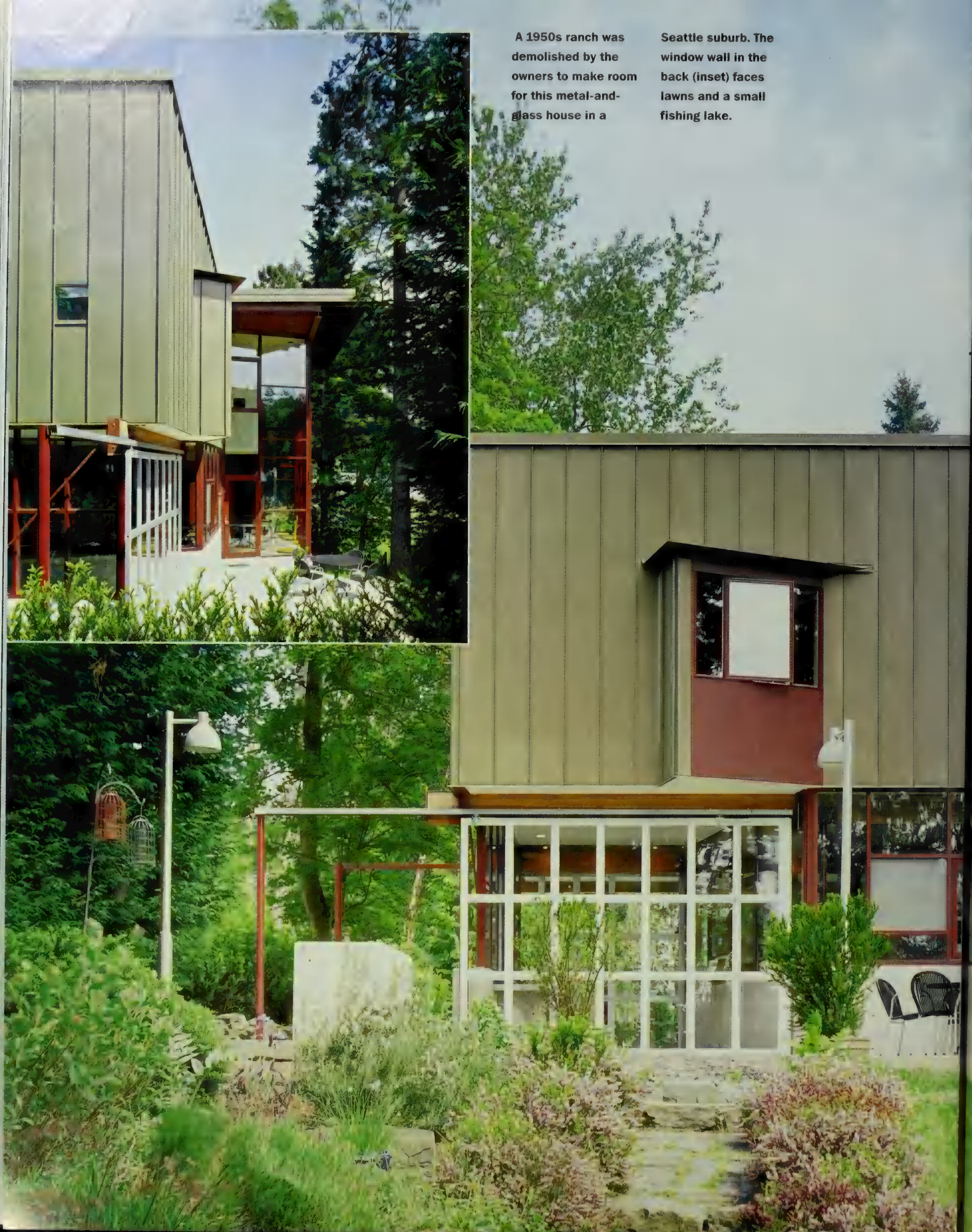
To visually unite one partner's preference for conservative traditional finishes and furnishings with the other's wish for fresh and contemporary, Deal specified Sherwin-Williams paints in deep, woodsy tones of *Cabaret Purple*, *Leatherleaf* and *Hematite*, interspersing the rich shades with clean but complementing neutrals like *Ermine* and *Landmark Gray*. Through this judicious use of color and design principles, consolidation was completed. And the verdict? A unanimous win.

SHERWIN WILLIAMS

part of the adventure.

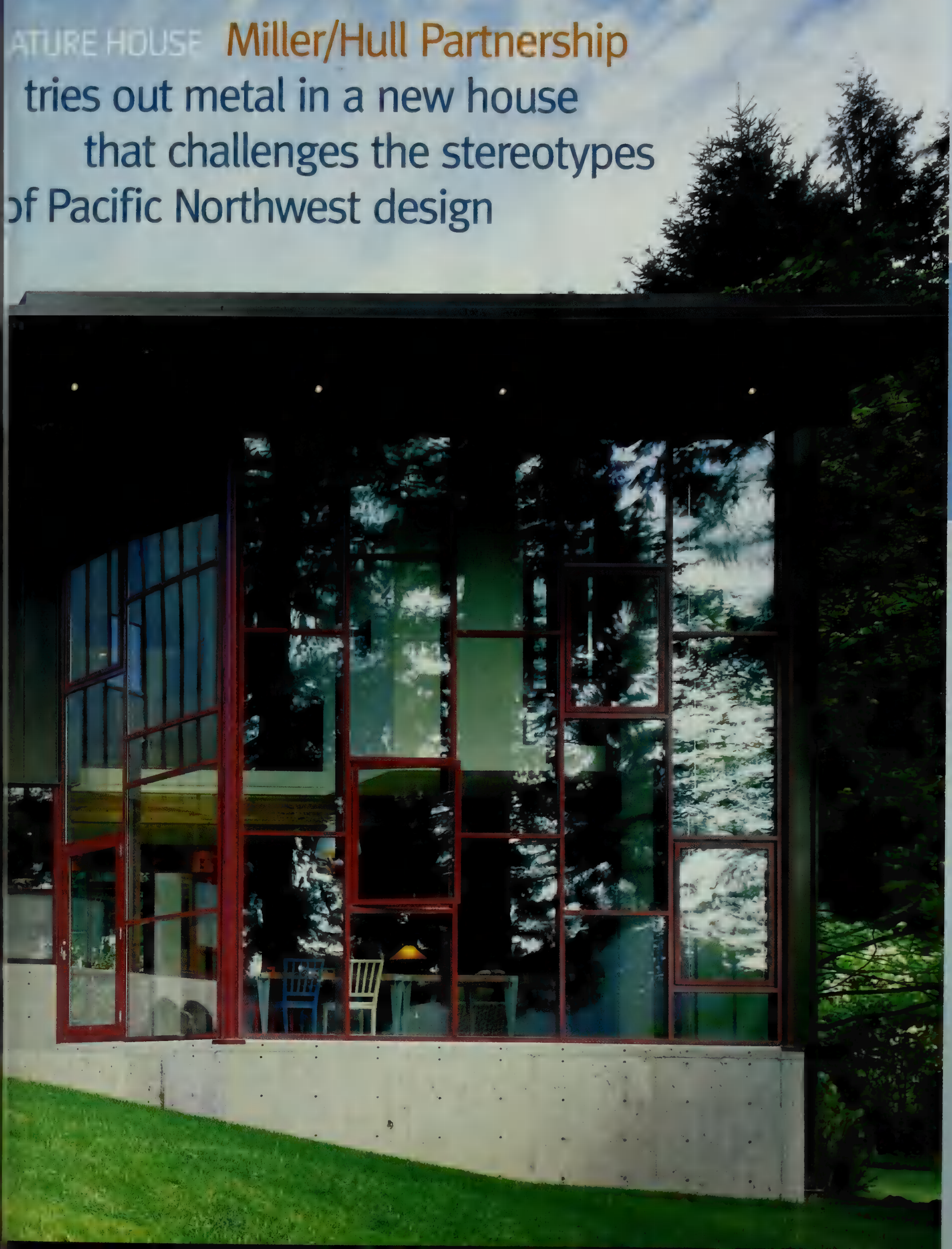
ALL OUR ARCHITECT & DESIGNER ANSWERLINE AT 1-800-321-8194 FOR COLOR AND PRODUCT INFORMATION.
[*visit us at* www.sherwin-williams.com]

CIRCLE 69 ON INQUIRY CARD



A 1950s ranch was demolished by the owners to make room for this metal-and-glass house in a Seattle suburb. The window wall in the back (inset) faces lawns and a small fishing lake.

Miller/Hull Partnership tries out metal in a new house that challenges the stereotypes of Pacific Northwest design



By Sheri Olson, AIA

The Miller/Hull Partnership in Seattle makes an art of playing against the stereotypical images of woodsy Pacific Northwest architecture. In the sprawling and very suburban town of Bellevue, there's nothing that even comes close to resembling this metal-and-glass structure, designed for owners Jan Roddy and Marc Bale. Says Roddy: "We weren't afraid of doing something interesting." Miller/Hull was the couple's choice because they knew they wanted a metal house and they knew the architects could pull it off.

Situated within casting distance (the couple owns a fly-fishing-rod company) of the small, bass-filled Phantom Lake, the house is on a spot previously occupied by a mundane 1950s ranch-style house. Roddy and Bale purchased the property some time ago for its location and for a rustic two-room cabin right at water's edge. But when their daughter came along, the ranch had to go; it was time to create larger and more endearing quarters. The cottage remains for use as a guest house.

The slender 2,800-square-foot house divides its long, narrow acre of property into two distinct yards, front and back. Entering from the street side, visitors progress through tranquil woods and across a wide lawn to the house. A walkway in the backyard leads to the cabin and the lake. Two paths through the house, one visual and one spatial, link these yards. "The client wanted a house that is both transparent and substantial," says Robert Hull, FAIA, partner in charge. The transparency is achieved with a tall window on the front facade, which is aligned with an oversized double-height bay window on the back, creating a view corridor. The second path allows visitors to stroll from a patio opposite the front entry, through an outdoor room to the back patio. The second floor projects over the outdoor room, providing proof of the house's substance.

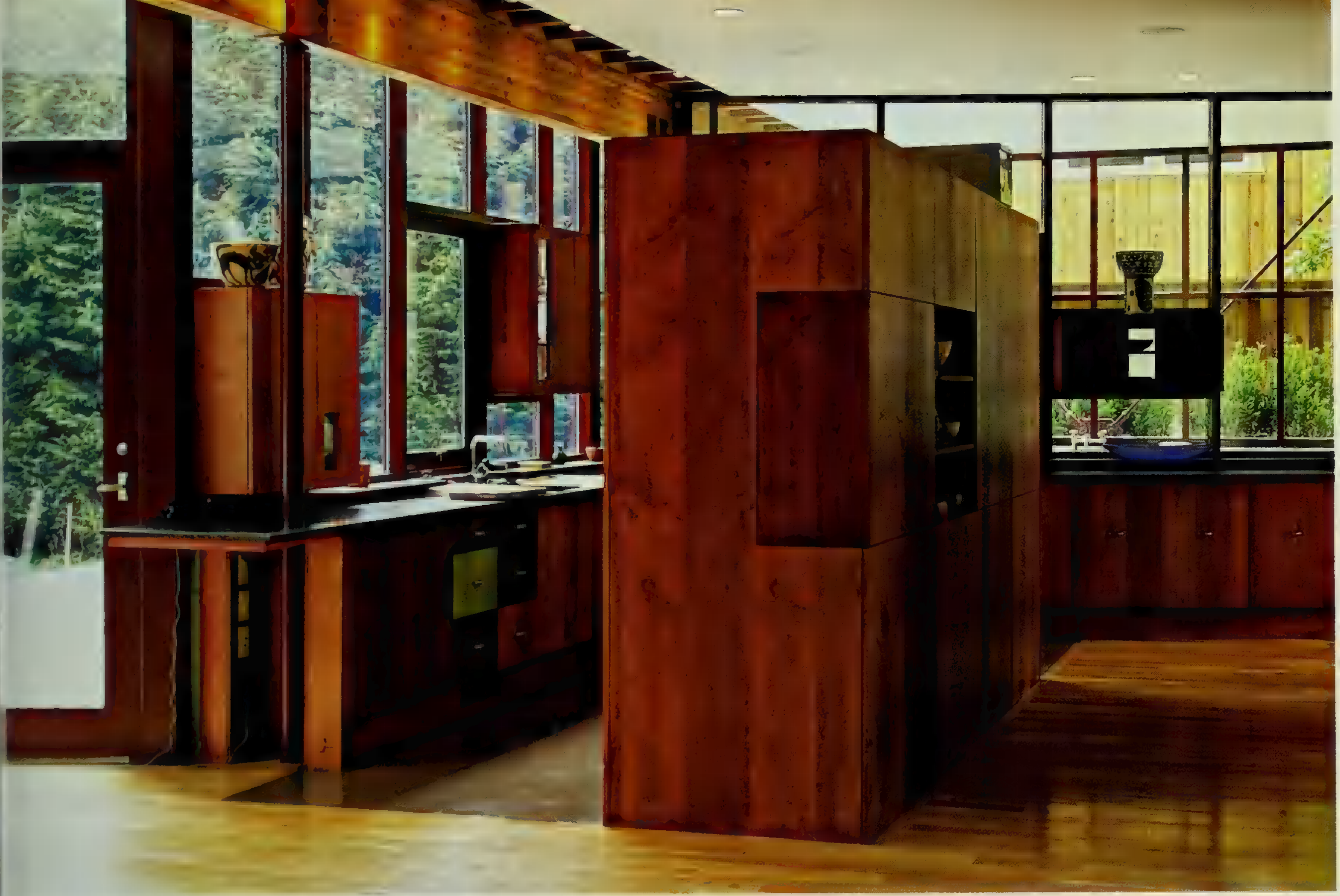
Testing the metal

The standing-seam steel cladding is installed over felt and plywood, similar to systems typically used on roofs. It has a vaguely industrial look, which the owners wanted. But it's also low maintenance; thanks to a metallic polyvinyl coating, it will never have to be painted. The coating also shifts in color from olive green to rose, depending on the light. "It changes subtly, like the color of someone's eyes, with the brightness of the sky," says project architect Amy Lelyveld, AIA. "It looks good even on a rainy February day."

Installing the steel was demanding for the architect and the builders, says contractor Mike Surver of Jerry Fulks & Co. For example, during design, the house had to be dimensioned and detailed to fit the product's standard 16-inch width. Particular attention was paid to details

Project: *Roddy Bale Residence on Phantom Lake, Bellevue, Wash.*
Owner: *Jan Roddy and Marc Bale*
Architect: *The Miller/Hull Partnership—Robert Hull, FAIA, partner in charge; Amy Lelyveld, AIA, project manager*
Engineers: *CT Engineering (structural); SVR Design Company (civil)*
General contractor: *Jerry Fulks & Co.*
Square footage: *2,800*
Construction cost: *$400,000*
CAD system: *Autodesk's AutoCad Release 14*

Sheri Olson, AIA, is a contributing editor and author of a forthcoming monograph on Miller/Hull (Princeton Architectural Press, Spring 2001).



such as the corners and doors, where it was necessary to make sure the battens fell at equal distances. The 28-gauge metal required care during installation to keep it from folding over and creasing. To allow for expansion along the sometimes 30-foot-long extrusions, the siding was pinned at the top of the wall and turned under into a concealed cleat at the bottom, allowing the metal to move.

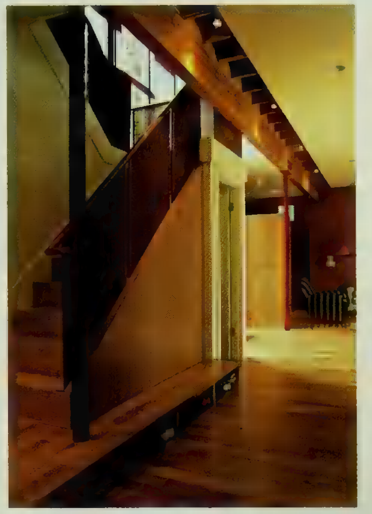
> **The spare, orderly exterior is made buoyant by a bubbly sweep of miniature windows.**

Typical construction sequencing was also changed. Surver waited until the metal cladding was in place to get an exact fit between the standing seams for the miniature windows. He carved holes in the siding and built interior wooden frames for the glass, which was applied from the inside. If this glass ever breaks, the walls will have to be opened to replace it.

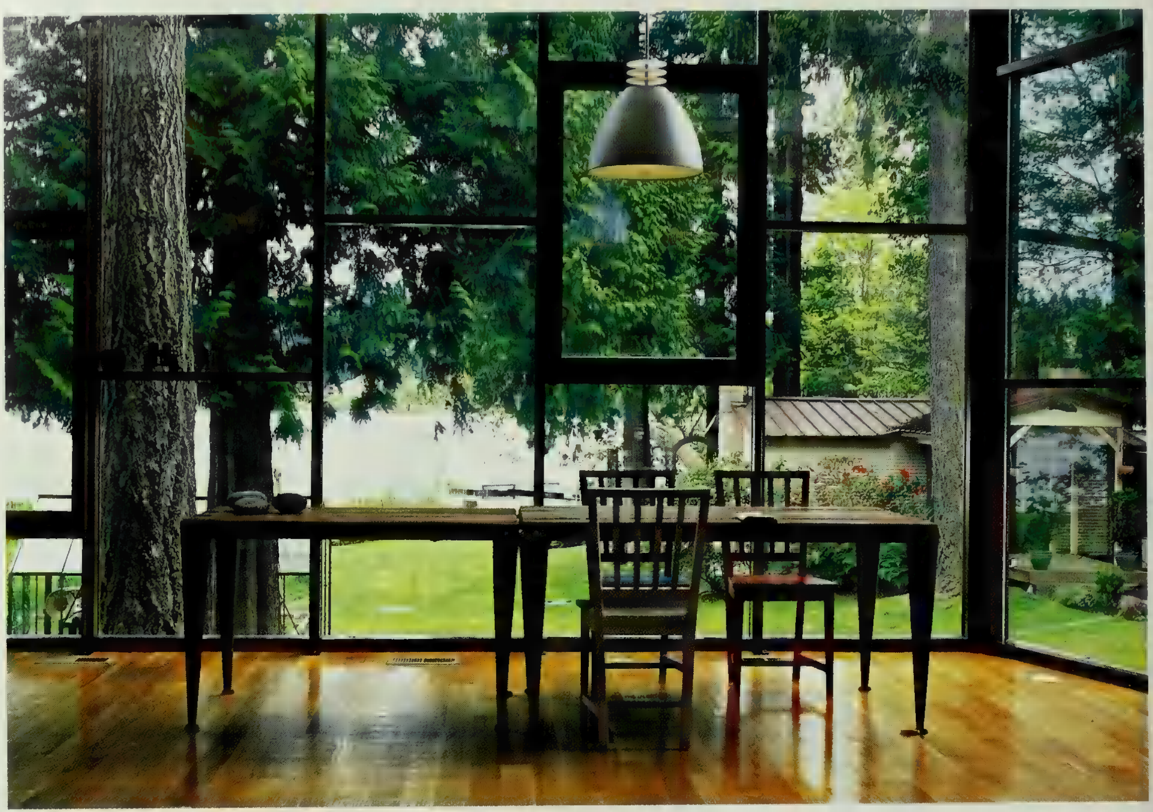
Innovative inside

The house's spare, orderly exterior is made buoyant by a narrow window irreverently poking up above the roofline and by the bubbly sweep of small windows. "A few of these little windows go a long way," says Hull, who places them carefully to fit specific tasks and views.

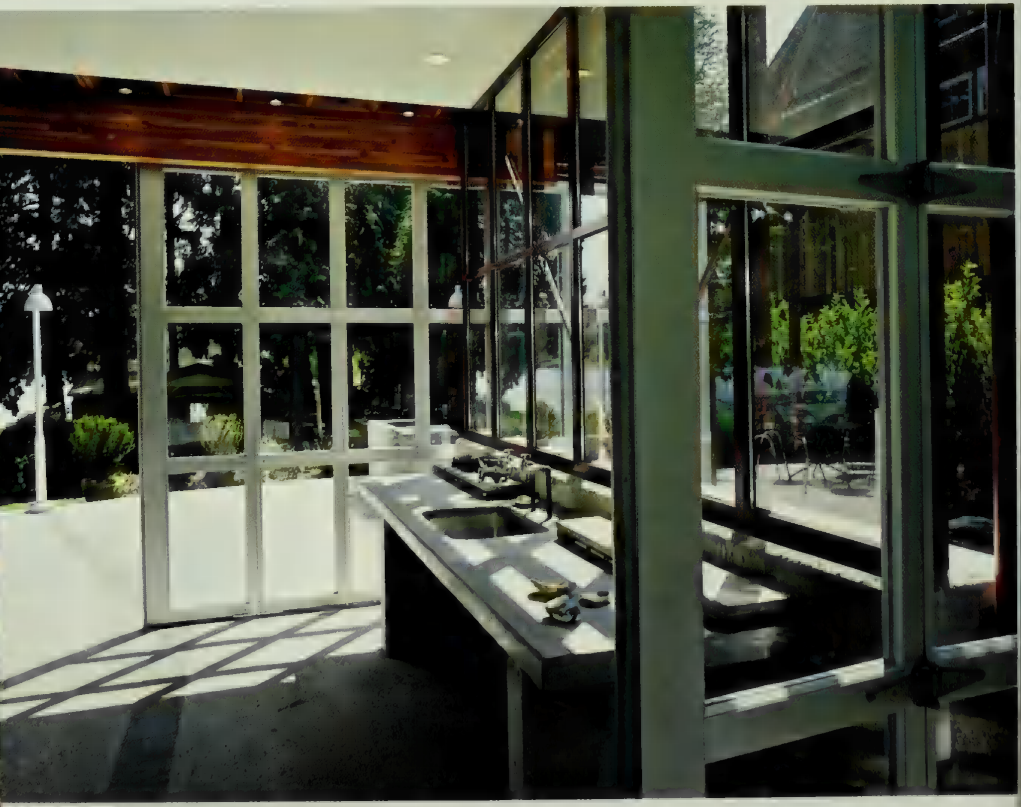
The structure was originally intended to be exposed steel but became a hybrid of wood framing, glulams, and steel columns when cost studies showed the steel would add $80,000 to the cost. Two 15-inch-deep glulams run parallel through the house, starting outside, above the

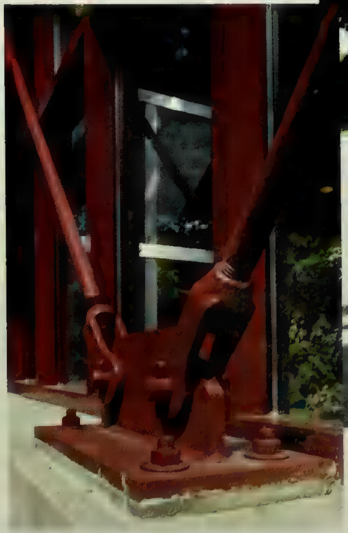


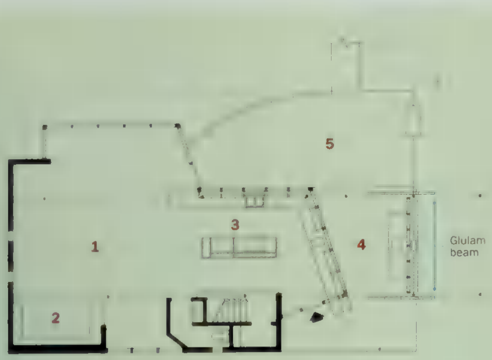
Glulam beams, visible throughout the first floor (far left), are supported by steel posts, creating a hybrid framing system. Most of the balance of the framing is wood. One of the steel posts becomes the newel post for the staircase (left). Fir-veneer cabinets delineate the kitchen from the other living spaces (top) and are inset into the window wall elsewhere (below).



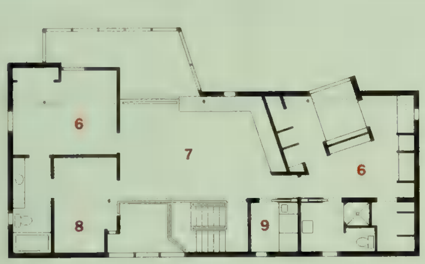
The window wall in the living/dining area (top) is made of standard storefront windows. Steel cables add rigidity to the outdoor room structure (below and right). The walls in this room are industrial garage doors mounted sideways on overhead barn-door track.





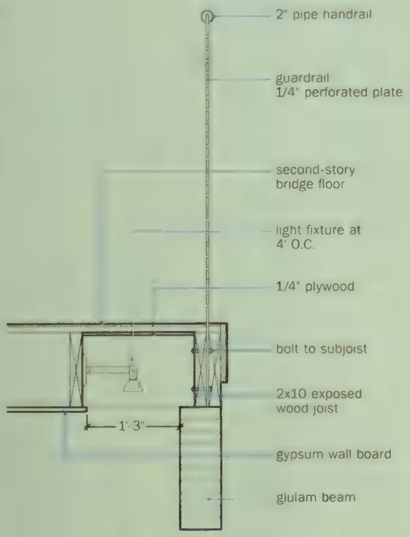


GROUND LEVEL

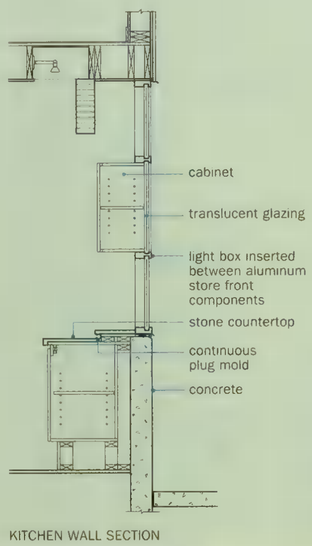


UPPER LEVEL

1. *Living/dining*
2. *Library*
3. *Kitchen*
4. *Outdoor room*
5. *Patio*
6. *Bedroom*
7. *Family*
8. *Den/guest*
9. *Laundry*



DETAIL OF CEILING LIGHT



KITCHEN WALL SECTION

ntry, and terminating at the outdoor room. Both are supported by pipe olumns that jab through the living space in unlikely places—into a itchen countertop or in place of a traditional newel post at the bottom f the staircase. The ceiling drywall flanking these beams stops a foot shy f the wall junction, exposing the tails of the second-floor wood joists. his makes the ceiling appear to float while providing space in the bays etween the joists for off-the-shelf galvanized-steel spotlights.

Northwest architecture is about framing views of cedars and a rain-streaked sky.

Standard metal-framed storefront windows create window walls the living room and kitchen. In the living room, the two stories of glass re stiffened with vertical mullions fastened to a welded T-shaped steel late that runs continuously behind them. This steel fin is bolted to the oncrete foundation and to an exposed steel beam overhead. This rrangement keeps the frame profile narrow.

Budget was an important consideration here. The interior is pen and simple both to make the space seem larger and to keep costs w. For example, a seven-foot-high fir cabinet screens the kitchen from e entry while housing the stove and the refrigerator.

The upper kitchen cabinets are fir-veneer boxes set at varying eights. The stains used on each cabinet door and drawer front vary slightly, from soft greens to almost clear hues in a subtle pattern recalling Mondrian's color blocking. The doors have small glass panels that allow vignette-like views of the dishes inside. Sandblasted glass on the back of each cabinet is set into the window wall.

The second floor bridges a portion of the living area, creating double-height spaces on either side that open to the family room, located on the second floor for more privacy.

The bed in the master bedroom sits snugly in a bay window angled toward a view of the lake framed by two evergreen trees. The window that pops up above the roofline on the front facade becomes a skylight that opens the master bathroom to the 100-year-old cedars and the rain-streaked sky. And that is what Northwest architecture is all about: framing the beauty outside. ■

Sources

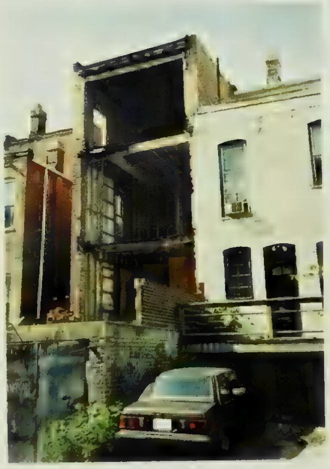
Exterior metal wall panels: *BHP Steel*
Built-up roof: *GAF*
Roof drains: *Jay R. Smith Manufacturing Co.*
Steel windows: *Goldfinch Brothers*
Aluminum windows: *EFCO*
Glass in kitchen: *Asahi*
Entry doors: *EFCO*
Sliding doors: *Overhead Door Co.*
Track: *Richards-Wilcox "Trolley Track"*
Floor and wall tile: *American Olean*
Resilient flooring: *Forbo Marmoleum*
Carpet: *Merida*

WWW *For more information on the people and products involved in this project, go to* ***Projects*** *at:* **www.architecturalrecord.com**

A derelict turn-of-the-century townhouse is reborn as the dynamic Fitch/O'Rourke residence

By David Dillon

In a city of crown moldings and pedimented doorways, the Fitch/O'Rourke residence in the Adams-Morgan section of Washington, D.C., is a stunning anomaly—open, edgy, and bright, with exposed concrete, acid-rusted steel walls, and dynamic spaces tucked behind a conventional rowhouse facade.



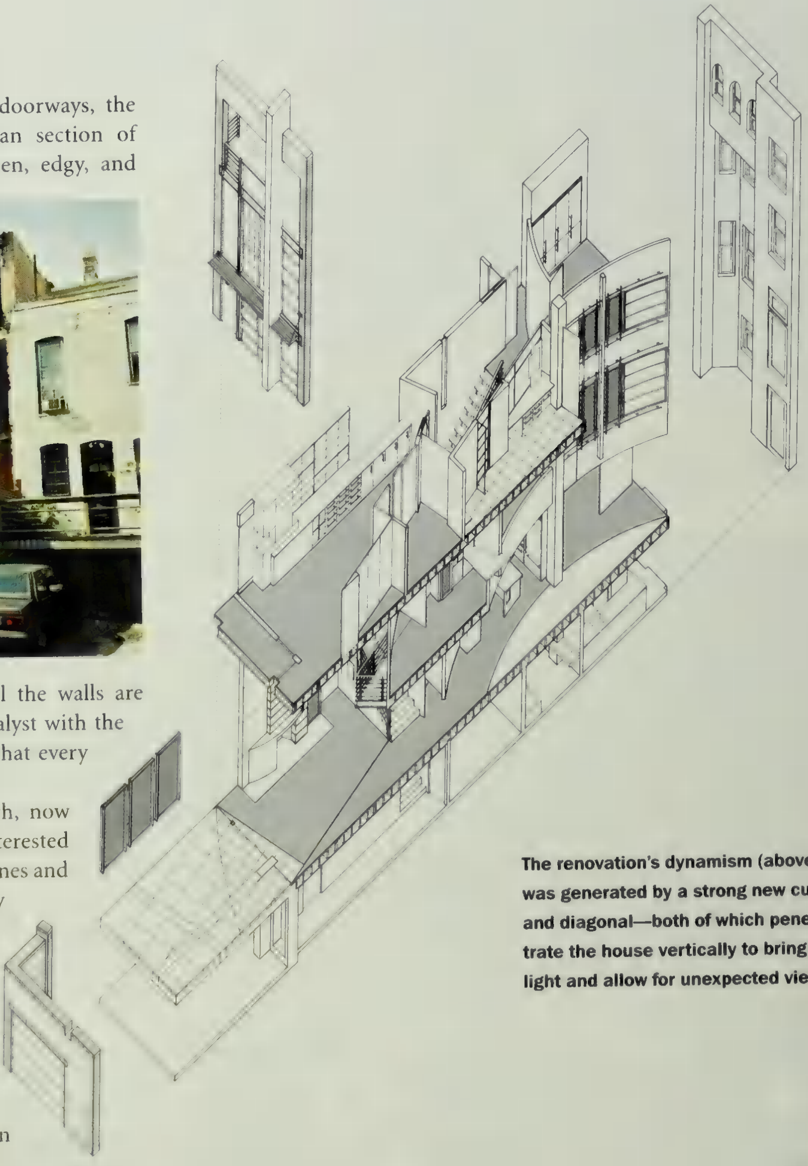
When Mary Fitch and Ronald O'Rourke first saw the house, it was a rotting shell without a rear wall, and its turn-of-the-century details had been destroyed. The previous owner had abandoned it to pigeons and vagrants after losing a zoning battle with the city. While neighbors were delighted to see this eyesore go, they were initially startled by what the new owners chose to put in its place.

"I work in a government building where all the walls are straight and rooms square," says O'Rourke, a naval analyst with the Library of Congress. "I didn't want to come home to that every night. I wanted to push limits."

O'Rourke, the son of an architect, and Fitch, now executive director of AIA/Washington, D.C., weren't interested in faux Georgian or rancho deluxe. They wanted clean lines and warm spaces with daring forms and materials. They bought their "wreck" in the summer of 1997. Earlier, they had seen the work of Robert Gurney, AIA, at a local exhibit and knew he'd be the right architect for them. A New Yorker with a degree from Catholic University, Gurney was as excited as his clients about designing a modern house. "To get a commission like that in a city like Washington was exhilarating," he recalls. "Here were people who actually wanted to do an interesting building."

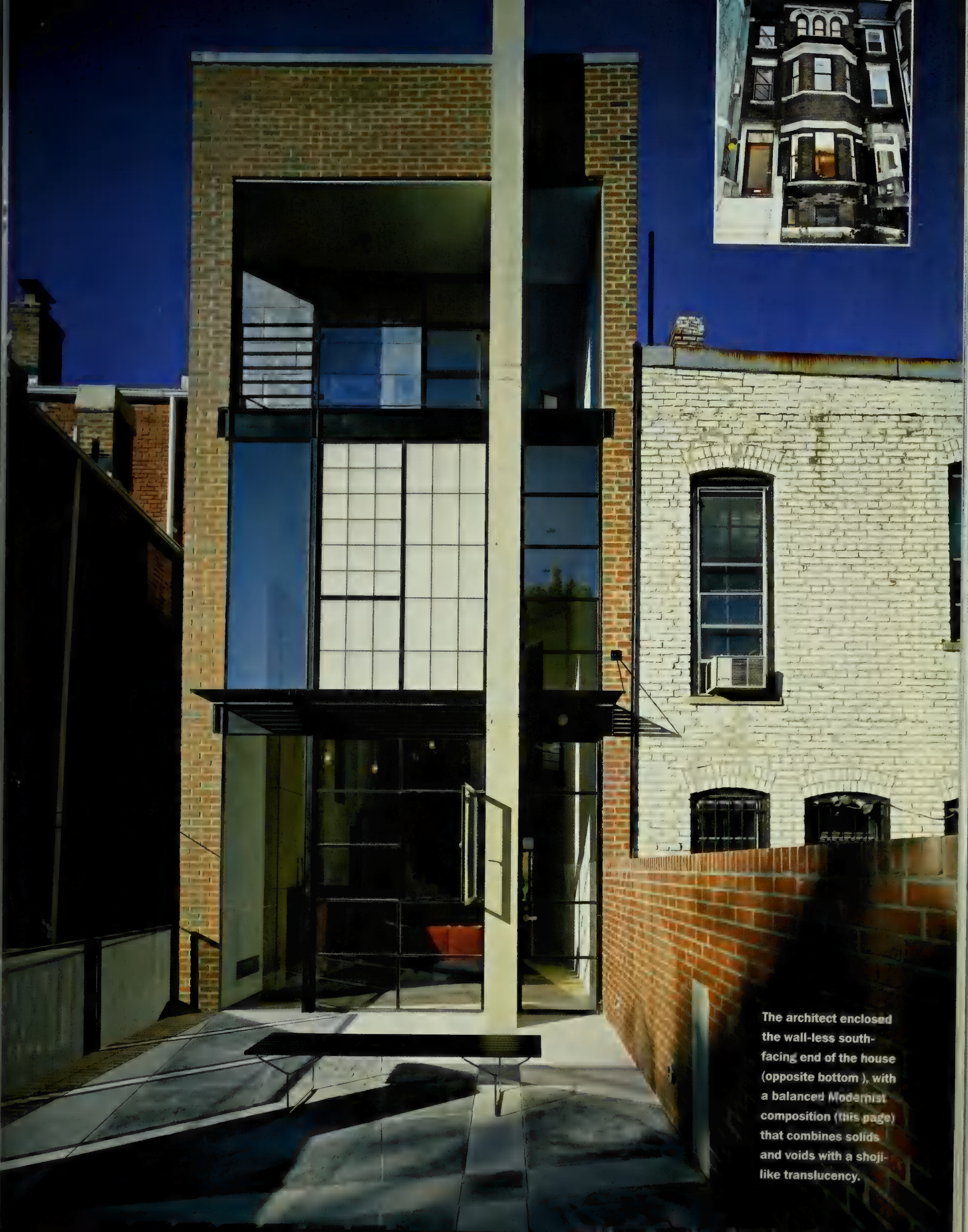
Within two weeks, Fitch and O'Rourke had written a remarkably clear and thorough program. "The interior should be modern," one section begins, "not the safe, boring, architecturally sterile interiors of new homes in northern Virginia . . . or the modernism of extreme Minimalism and endless white walls. We don't want a temple to Sheetrock."

David Dillon is the architecture critic of the Dallas Morning News *and the author of* The Architecture of O'Neil Ford: Celebrating Place, *published by the University of Texas Press in 1999.*



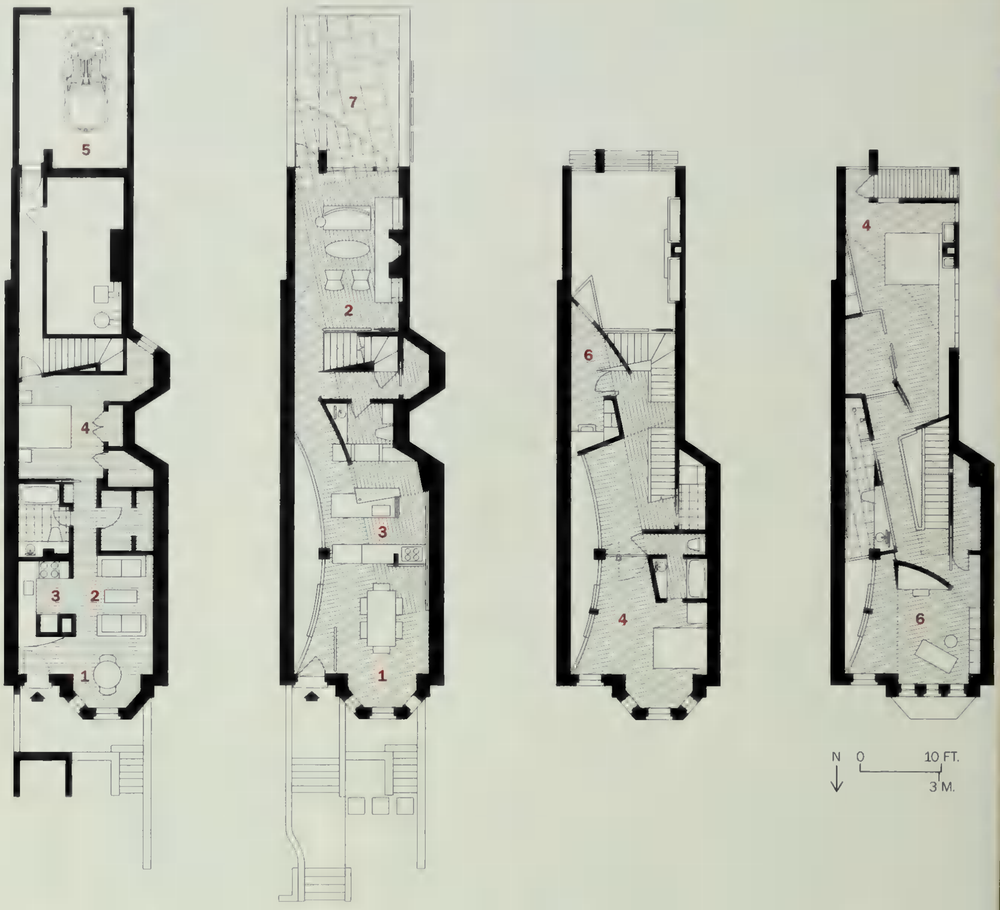
The renovation's dynamism (above) was generated by a strong new curve and diagonal—both of which penetrate the house vertically to bring in light and allow for unexpected views.

Project: *Fitch/O'Rourke residence*
Architect: *Robert M. Gurney, AIA; Robert M. Gurney, Hito Martinez—project architects; renderers—Emily Barnett, Hito Martinez*
Engineers: *Advance Engineers, Ltd. (structural); Brian Ford (mechanical*



The architect enclosed the wall-less south-facing end of the house (opposite bottom), with a balanced Modernist composition (this page) that combines solids and voids with a shoji-like translucency.

1. *Dining*
2. *Living*
3. *Kitchen*
4. *Bedroom*
5. *Garage*
6. *Study*
7. *Terrace*



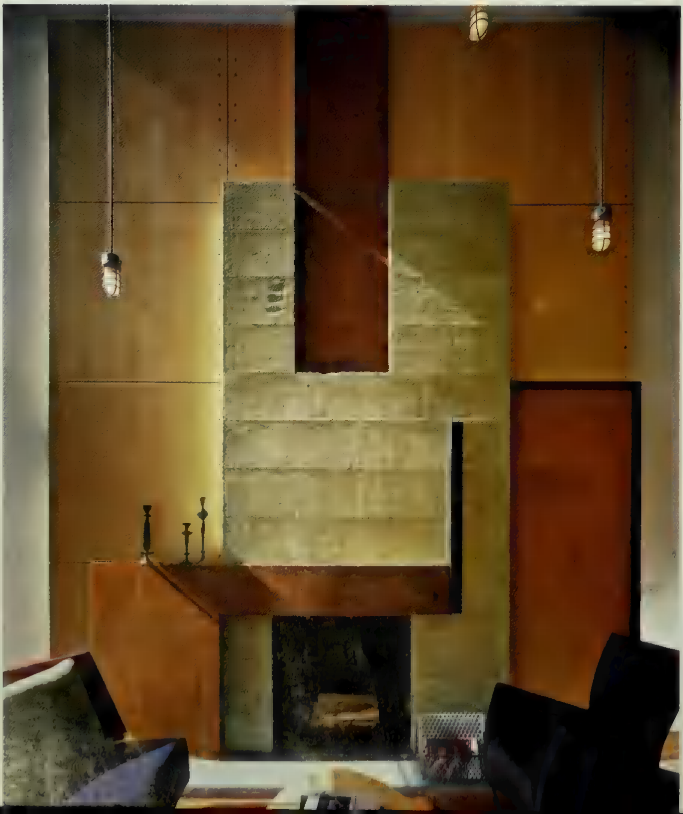
BASEMENT RENTAL UNIT FLOOR

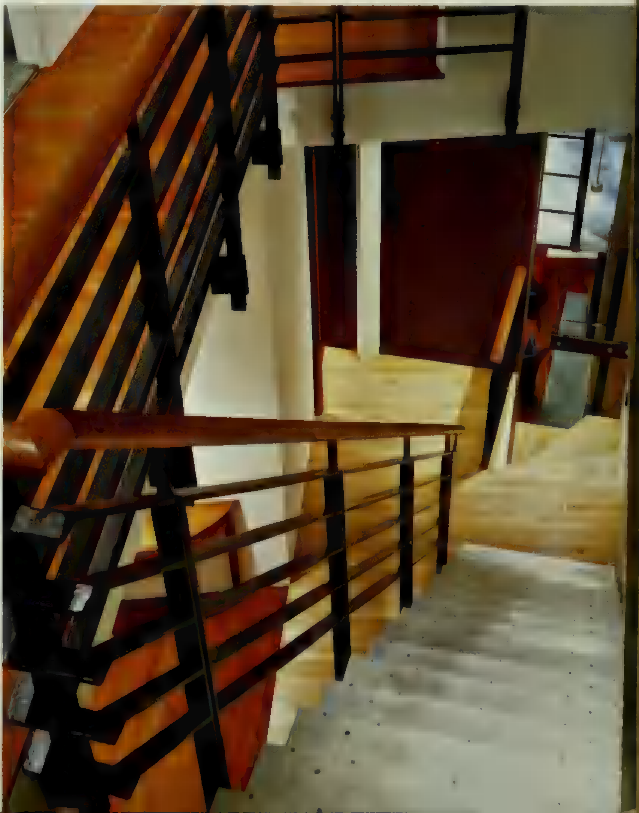
FIRST FLOOR

SECOND FLOOR

THIRD FLOOR

In the two-story living room (below and opposite), a board-formed fireplace surround is juxtaposed with maple paneling and an acid-rusted steel mantel. Immediately to the mantel's right, a copper-wire screen masks stereo equipment. Low-cost industrial light fixtures were converted into simple pendants. The main stair (below right) is skylit.





THE CLIENT SPEAKS

My wife, Mary, and I lived down the street from a gutted townhouse and wondered what would become of it. The rear wall was missing and the interior rotted out. Someone would have to be brave to take on that wreck, we imagined, and that someone wasn't us. But we were wrong.

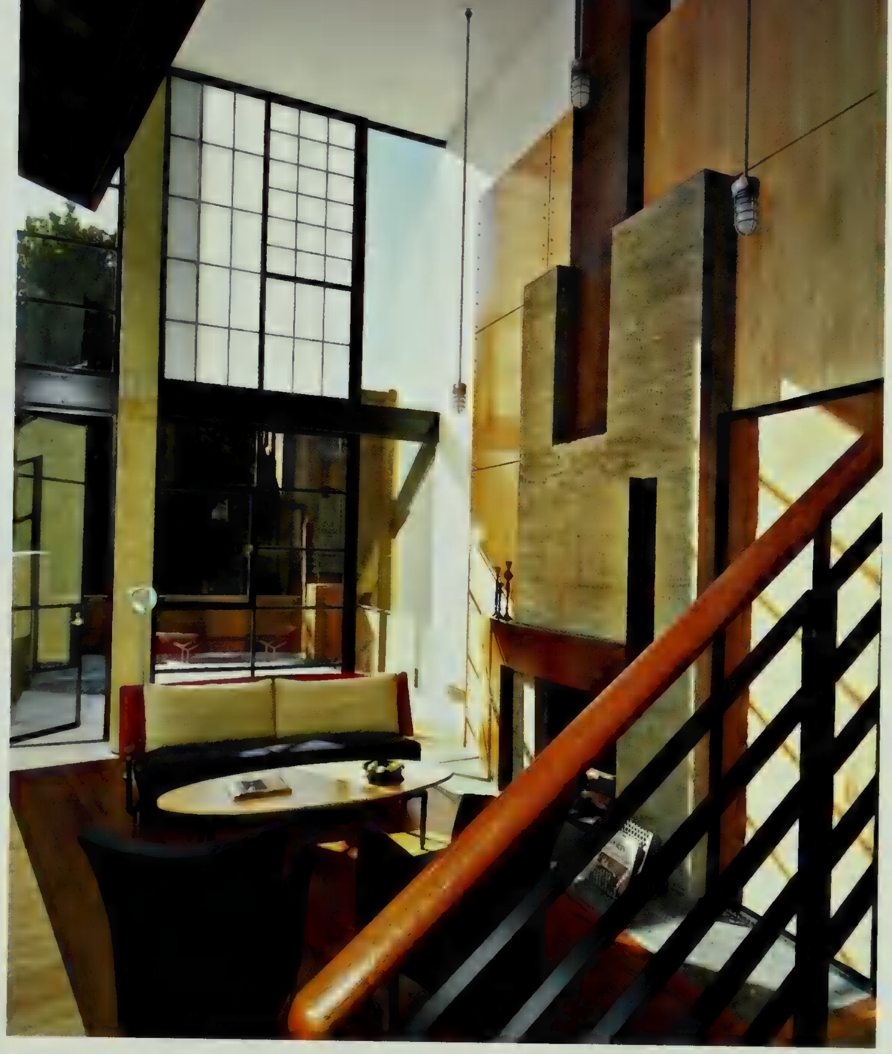
When the house came on the market in 1997, we realized it presented a rare opportunity to build a modern home in a historic neighborhood. We'd dreamed of doing this.

My experience with architecture goes back to my father, architect Jack O'Rourke, who designed houses in the San Francisco Bay area in the 1950s and '60s. After buying the house, we quickly brought in an architect, Robert Gurney, whose project we'd seen in a local AIA exhibition. We knew he was the architect for us—passionate about modern design and willing to work closely with clients.

When we told friends we had hired an architect, they assumed we had money to burn. On the contrary, we hired Bob because we didn't have a ot of money and believed he'd earn his fee many times over by developing a good design and controlling costs and risks by seeing it through approvals and construction. That proved even truer than we thought.

Design took 12 months, longer than expected, but the results were better than we could have hoped for. Construction, on the other hand, was a nightmare. We faced reluctant lenders, a supportive but dysfunctional building department, a historic review board eager to freeze-dry the neighborhood and maddeningly unreliable contrac-ors. In the end, Mary became construction manager and finished the ob within budget. At $140 per square oot, our renovation was roughly the ost of a new tract house in suburban Washington, D.C. The house achieves everything we wanted in terms of sur-prising materials and dynamic spaces hat are both warm and functional.

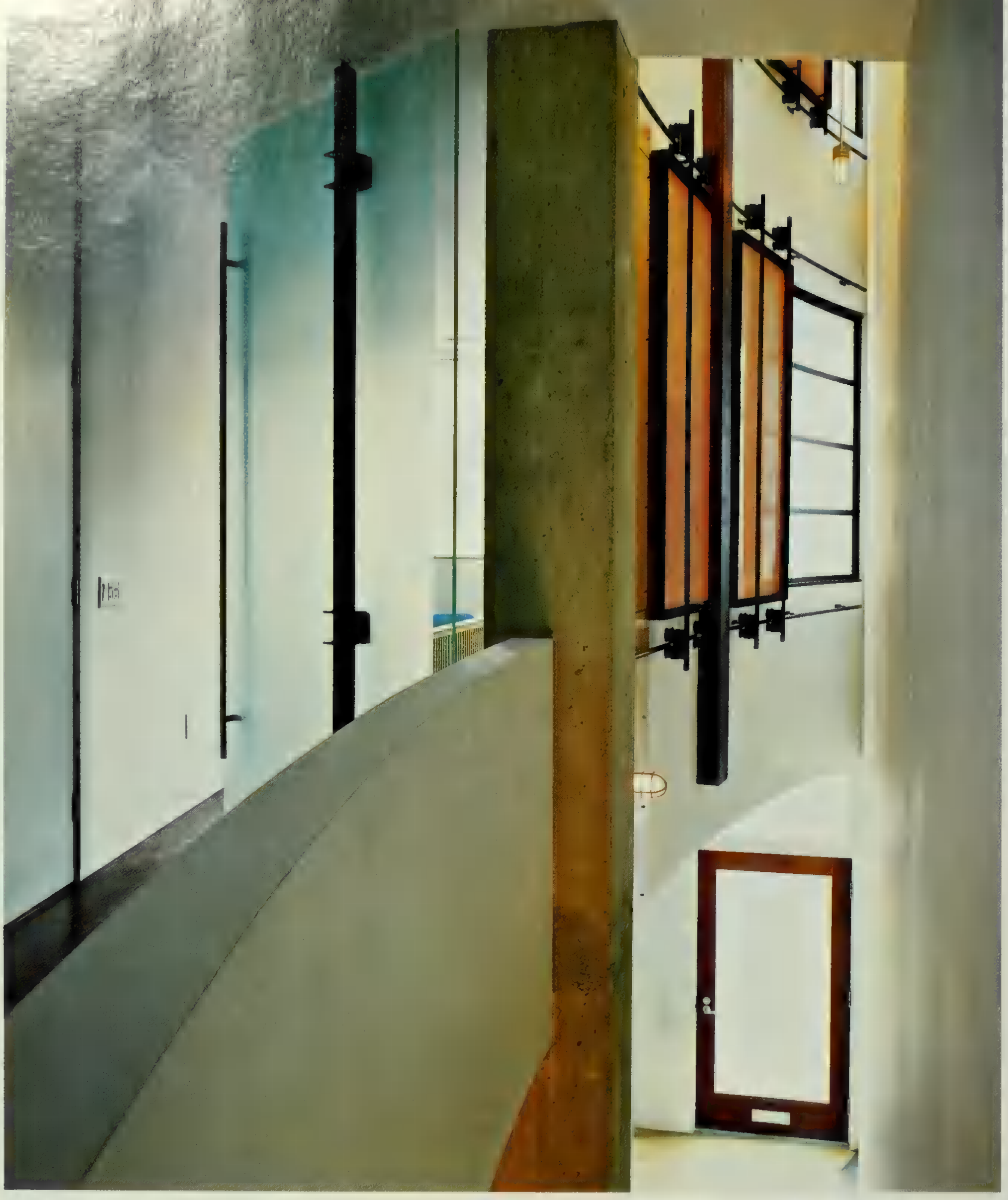
My father thought it the highest ompliment to him that we had hired n architect. Failing health prevented is visiting, but we showed him pic-ures. We were pleased that we could uild our dream house and honor him s well. Ronald O'Rourke



They suggested layouts, identified needs, and specified the character of individual rooms. "The kitchen should be a place to show off modern design," another section reads, "but we don't want it to be one of those huge suburban soccer-mom command posts that looks like the bridge of the starship *Enterprise*. A moderate-size facility will do."

At $140 per sq. ft., this materially rich renovation cost the same as new tract houses in the area.

Gurney and his clients then spent 12 months designing and redesigning the 4,000-square-foot home. Describing the design process, O'Rourke says, "I was in favor of wild, and Bob was in favor of restraint." The gutted interior allowed Gurney to create a new house within an old shell. His challenge was to avoid the typical stacked boxcar arrangement of rectangular rooms placed end to end; his solution was to introduce a geometry of curves and diagonals that set the interior in motion. The primary curve defines a 30-foot-long stainless-steel plate set in the kitchen floor and the convex arcs of two balconies above it. Carving a vertical shaft through the interior, this curve opens part of the first-floor kitchen all the way up to the third story. Meanwhile, a diagonal gesture in plan penetrates the house from front to back and upward from the first floor, skewing floor patterns and partitions, 10

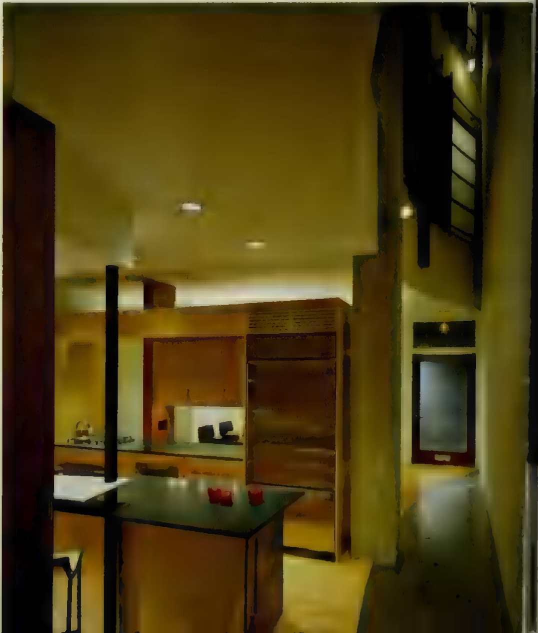


The arc of a 30 foot long stainless-steel plate in the kitchen floor (below) is echoed in the concave curve of balconies above it—defining an open well (left) that allows oblique rays from upper-story windows and a skylight to filter down to the first floor.

degrees from the sidewalls. Much of the design works off the curve or the diagonal. Spaces intersect and overlap, producing exciting cross views that bring daylight deep into the house. "There's a lot happening, but it all responds to that basic geometry I set up," says Gurney. "There are few happy accidents."

> **"There's a lot happening," says Gurney, but the geometry is purposeful.**

Recognizing that a spacious volume is a valuable commodity in a small house, Gurney created a two-story living room at the rear, or south end, of the building, with a patio over the garage and a tall Mondrian-esque window where the original end wall once stood. A concrete fireplace with copper-mesh panels anchors one side wall, while a skewed balcony from Fitch's office pops out of the other. The master bedroom and study, on the third level, are connected by a steel-and-block-aluminum staircase to a guest room on the second level and the

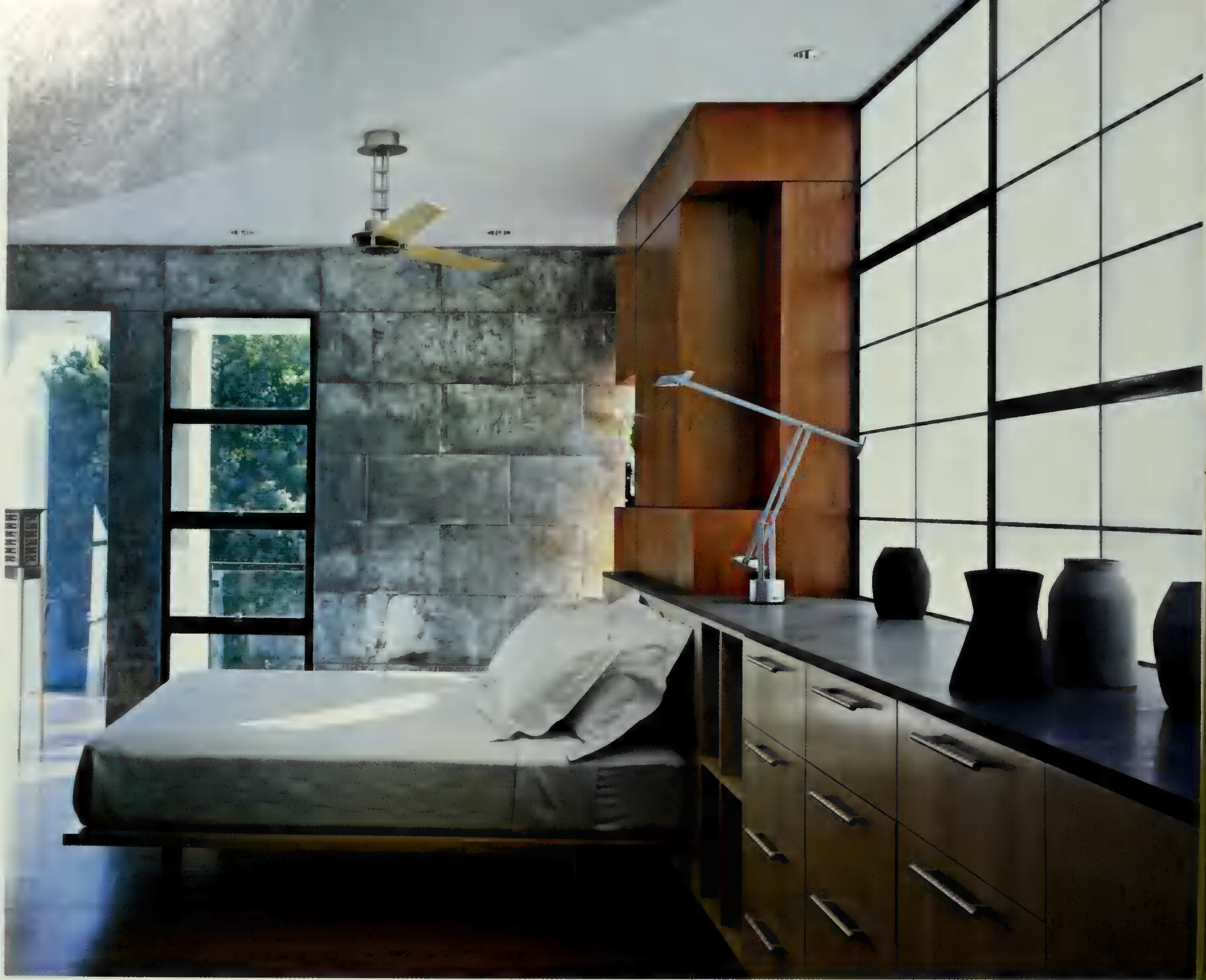


ANN SACKS

tile stone plumbing

www.annsacks.com 1+800+969+5217

CIRCLE 70 ON INQUIRY CARD



In the master bedroom (above), the rich and elegant material palette includes lead-coated copper cladding the south wall, smooth mahogany and maple cabinets, and a pietra verde limestone countertop.

kitchen and dining room on the first. A rental apartment with a separate entrance occupies the basement, previously a seven-foot-high, dirt-floored crawl space.

Besides dynamism, the owners insisted on a sense of warmth with an element of surprise. So Gurney gave them maple, mahogany, and cherry floors, walls, and cabinets; acid-rusted and sealed steel- and lead-coated copper doors; sliding copper screens; and pivoting glass doors like ones he'd previously used in a Capitol Hill hair salon. Despite this eclecticism, the interiors don't have that guess-what-we-found-at-Home-Depot look. They are calculated rather than capricious. Materials come together effortlessly and elegantly.

The completed house, including the rental apartment, cost $140 per square foot. The owners feel they got not only their money's worth, but also a paradigm that others might follow.

"We didn't want to live in the past," O'Rourke says evangelically. "We wanted to do something different, within a budget, and show Washington what modern residential architecture could be about."

Whether Washington gets the message or not, the owners an their architect have created something fresh and provocative unde unlikely circumstances. ■

Sources

Curtain wall: *Kalwall*

Windows: *Weathershield (wooden); A&S Window Associates (steel)*

Glazing: *Maryland International Glass (custom)*

Doors: *A&S Window Associates (metal); Northeast Iron Works (custom sliding)*

Locksets: *Modric*

Cabinetry: *Burger's Cabinet Shop (custom); Hafele (hardware)*

Paints and stains: *Duron*

Lighting: *Lightolier (downlights); Estiluz (task); Stonco (exterior); Lutron (controls)*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

A HALF BILLION FEET AGO
THERE WAS NO OTHER EXTERIOR SHEATHING
PRODUCT LIKE DENS-GLASS GOLD.
THERE STILL ISN'T.
400,000,000
500,000,000

Simply put, nothing performs like Dens-Glass® Gold. That's why design professionals and contractors count on our distinctive gold board as their preferred substrate for exterior EIFS and brick applications. Inorganic glass mats encase a highly moisture resistant core. The result is a lightweight, easy to install, strong material that stands up to all forms of moisture, including prolonged or wind driven rain. Because every inch of Dens-Glass Gold is backed by years of proven performance and 14 applicable U.S. patents. Plus the protection of a six month exposure warranty and five and ten year installed warranties depending on application. See specifications in the Sweets Directory (and CD). For information, call **1-800-225-6119** or visit **www.gp.com/gypsum. Don't ask for headaches, ask for Dens-Glass Gold.**

G-P Gypsum Corporation

CIRCLE 71 ON INQUIRY CARD

In the wilderness of Philadelphia, M. Finney Design transforms an 1809 house and barn

By Thomas Hine

Architect Martha Finney's house and barn stand on a narrow country road, flanked by farmhouses, barns, and former pastures that have turned to thicket and copse. The setting could be Vermont, but, as it happens, it's within the city limits of Philadelphia. Though the area seems remote and rural, the land just across the road was considered for digital television transmission towers that would have served the country's fourth largest media market.

It is fitting, therefore, that the 1809 house Finney renovated and modestly expanded for her own use is neither a slavishly restored historic building nor a suburban farmhouse fantasy. Rather, reflecting a contemporary pastoral vision, it is a megalopolitan country cottage. The original two-and-a-half-story rubble-stone-and-stucco structure, with generations of patches, is a true vernacular building. It's about as cute as a Roman ruin, but it has undeniable strength and integrity. "I didn't want it to look as if it had been hit by an architect," Finney says. By using a standing-seam metal roof and standard windows, the architect signals that her project is not a restoration but a contemporary renovation, done in a spirit as pragmatic as the one that produced the original house.

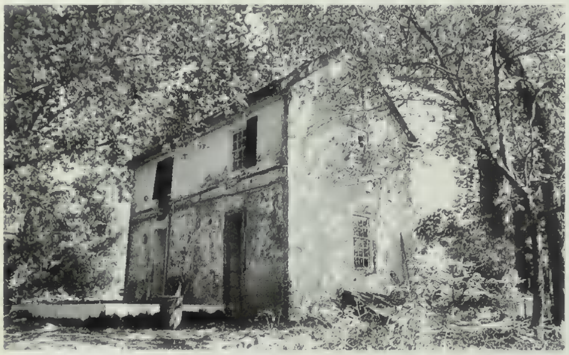
Finney also reveals a sensibility that is more personal than the generic simplicity of the old building. That's clear from the way her dark-stained wooden 444-square-foot addition meets the piebald stucco house with a new angular entrance canopy at one end and jutting porch at the other. "It has always seemed to me," Finney says, "that the joining of old and new can actually strengthen the peculiarities of each."

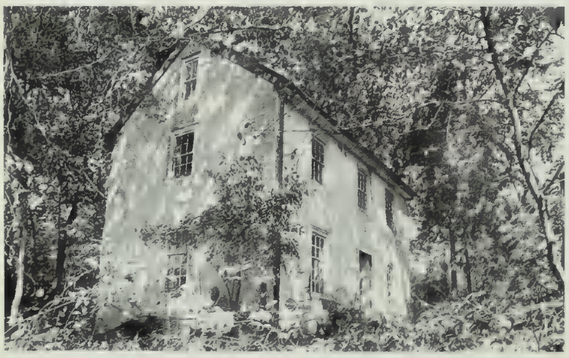
As it turns out, connecting an old masonry building with a new wood-frame structure proved to be a construction challenge. Finney, acting as general contractor, first decided to drill 12-inch-long anchors into the stone walls to tie the two structures together, but these didn't always hold. Some stones, she discovered, were so hard that the bolts didn't penetrate at all, while others were too soft. The mortar was so powdery that Finney realized the walls, though plumb, were held up more by inertia than adhesion. Only after drilling many holes did she find stones to secure the addition.

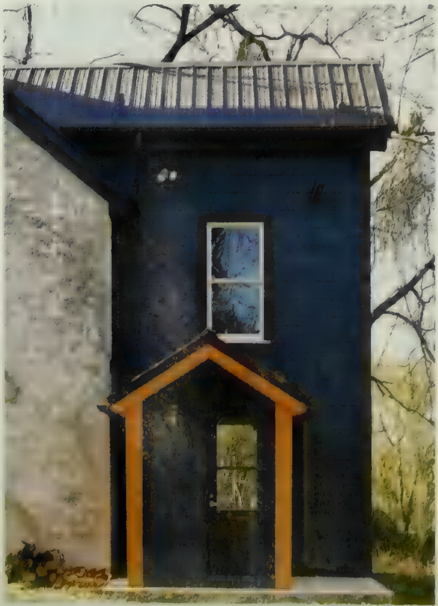
Finney is also renovating the far larger and spatially dramatic stone barn as her office. From the exterior, the barn looks essentially unaltered, except for a new roof. Inside, she has added a wood stove and a checkerboard painted floor, but its original roof trusses remain the chief architectural feature.

Thomas Hine, former architecture and design critic of the Philadelphia Inquirer, *is author of* The Rise and Fall of the American Teenager *(Bard/Avon) and* Populuxe *(MJF Books).*

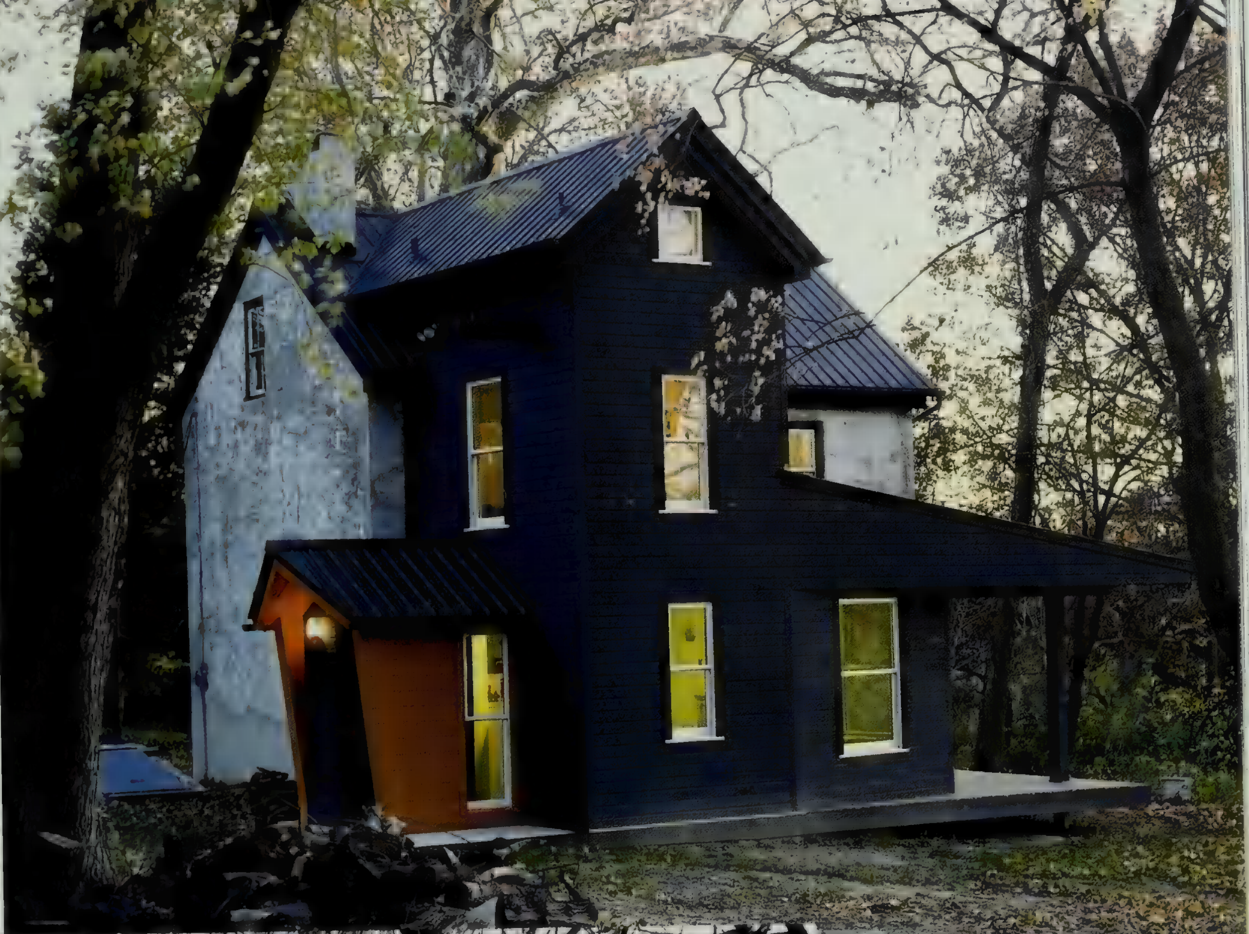
Project: *Schuylkill House, Philadelphia*
Architect: *M. Finney Design*
Engineer: *Kachele Group—Tom Langan*
Carpentry: *John Weckerly*







"A simple house of solid construction and pleasing proportion" is how architect/owner Martha Finney describes this patched-up stone and stucco structure (above) in Philadelphia. She restored the original 1,260-square-foot house, built in 1809, and attached a 444-square-foot wood-frame addition (right).



Finney obtained the house on a 50-year lease after proposing to renovate it. The building is owned by a nature preserve. Standing-seam metal roofs and new standard windows on both the addition and the original house unify the structures and signal that this is not a literal restoration (above). The addition, with its odd angles and tall, skinny center, provides necessary living space.

RECOGNIZING A TREASURE

For years I looked for a small house that needed an addition to make it work. The age of the house was not important to me, but its setting was. Here, through all the vines and prickers, behind broken sashes and peeling wallpaper, and under layers of old clothes, dirt, and other trash, I had finally found what I was looking for: a simple house of solid construction and pleasing proportion.

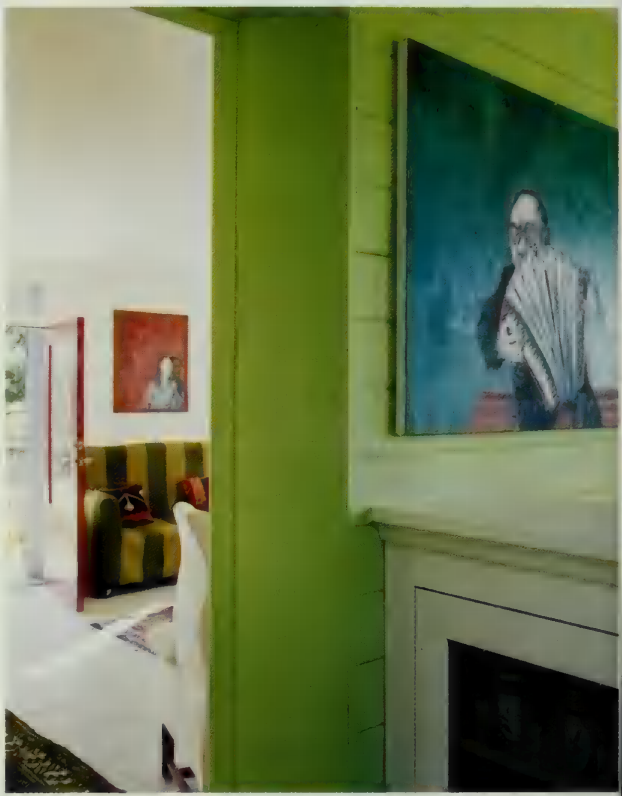
I acted as my own general contractor, which was a real learning experience. Now when I sit down to draw I have a far more visceral sense of the importance of how things get done and how this meets that. As a designer going to job sites, I would say, for example, that the paneling did not meet the corner properly. Now I understand that if you did not plan for that with the very first board you put in, then you're in trouble.

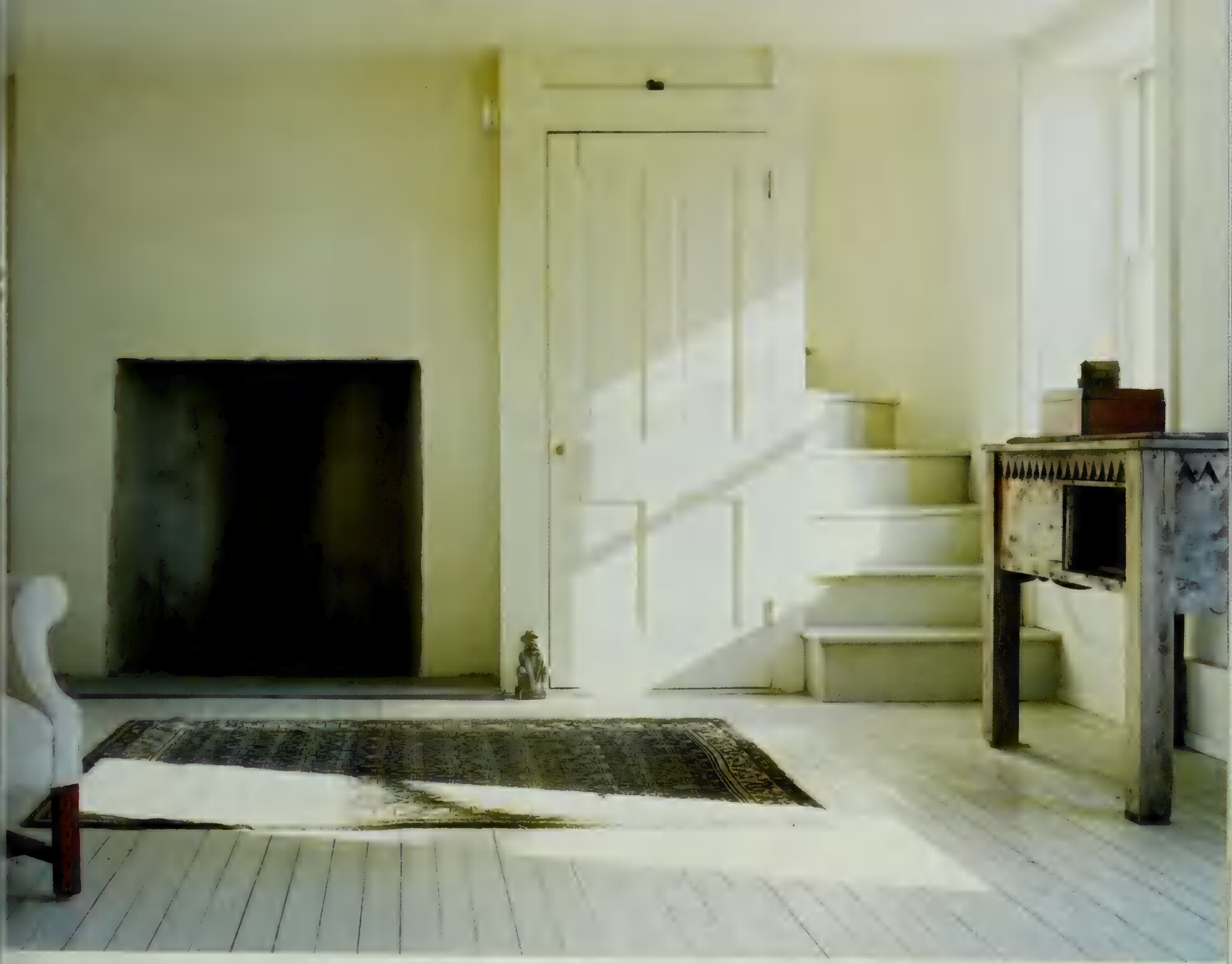
With an old building like this, you also learn about time and the seasons. When we put tongue-and-groove cedar boards in the kitchen, we had to arm-wrestle them into place piece by piece, then we painted them. A few months later, I had to repaint all the tongues: The boards shrank during the winter.

In the design, I had an opportunity to do some of the things I have often advised clients to do, such as install radiant heat in the kitchen and bathroom in the addition. I tried to use color and texture so that old and new, inside and out, were sailing with, by, and through each other.

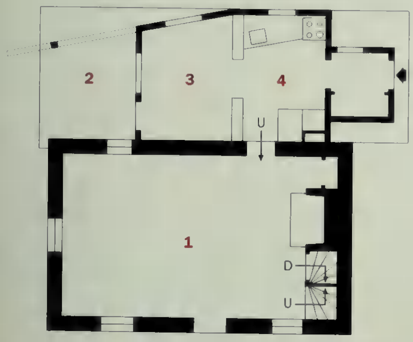
This house gave me an opportunity to realize an architectural idea I call "hazy familiarity." The house, in its detail and as a whole, looks as it should, but at the same time, makes you look again, as if you'd seen it before, as if perhaps you'd dreamed of it or saw it as a child. *Martha Finney*

Pure colors and simple details smooth the transition from the old house to the new addition (right). Tongue-and-groove cedar boards throughout the first floor of the addition (below) are historically appropriate.

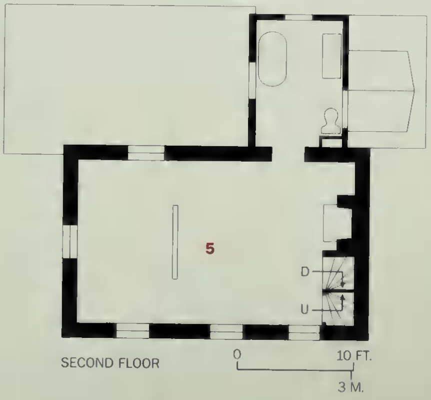




The thick walls of the original house create deep window insets. The existing narrow stair was rotted, but Finney built a replica.



FIRST FLOOR



SECOND FLOOR

1. *Living room*
2. *Porch*
3. *Dining room*
4. *Kitchen*
5. *Bedroom*

The small attic—the third floor of the old house (left)—has barely enough room for standing. It is, nonetheless, a dramatic space and Finney's favorite room in the house. The large windows (right) allow views of the surrounding woods. She currently uses it for her office.

Renovation contest

The house is owned by a nature preserve, the Schuylkill Center for Environmental Education, which considered tearing it down. Instead, in May 1998, the center asked the community for proposals for renovating the property. Most schemes focused on a residential conversion of the barn, but Finney's concentrated on the house. Four months later, she was granted a 50-year lease with a 30-year option for renewal.

After five years of abandonment, the house had fallen into terrible shape, recalls Finney. The roof remained intact, but none of the windows was in one piece and everything was overgrown with vegetation. “The floors were knee-deep in trash,” she says, “and other horrors, included a long-dead cat and a recently dead raccoon. I had to crawl in the window to explore the basement, which was overpoweringly creepy.”

> **“I didn't want it to look as if it had been hit by an architect,” says Finney.**

Because the joists had rotted in their masonry pockets, she added two wooden beams beneath the first story. These members are supported by steel columns set in concrete footings. She also replaced and reinforced some of the beams that support the first story. Little was done to the floors, apart from removing the old linoleum and uncovering the wide-planked wood that she painted pale gray to reflect and intensify the light from the outdoors. She tore down partitions, making each of the floors into a single room.

Finney kept all the existing masonry openings, converting one ground-floor door into a window, and using a second-floor window as the door to a bathroom which, along with a sleeping loft for guests, the kitchen, and the porch, occupies the addition. The third floor is really an attic, with only a bit of standing space. Yet it is clearly one of Finney's favorite places, with a view of a grassy field and distant woods that convinced her this was the house she was looking for. This room is her office until the barn renovation is complete.

The narrow stairway was rotted, but to save every square foot, Finney replaced it exactly as it had been. Then, because it was impossible to get anything large up the stairs, she placed a huge window in the new bathroom, through which she hoisted the bed and bathtub.

Though the original stone structure is only 1,260 square feet and the ceiling height seven feet, these rooms seem spacious. This quality owes much to Finney's choice of colors and furnishings, as well as the thick walls that create deep-set windows, the austerity of detail, and the expansive wilderness out the window. “No matter where you are,” Finney says of her house, “you always have a sense of another place just beyond. You are drawn to it either by a view or a play of light.”

She has lived in the house for a year and is still making discoveries and getting acquainted with the creatures that have lived so long in the walls. “Enormous spiders and centipedes keep emerging,” Finney says. Fauna aside, she is delighted with her near ruin: “To start from such squalor and make it into what it could be—that was invigorating.” ■

Sources
Wood cladding: *Delaware Cedar Co.*
Windows: *Kolbe & Kolbe*
Entry doors: *Fiorella Woodworking*
Locksets: *Schlage*
Pulls: *IKEA*
Paints and stains: *Benjamin Moore, Martin Seynour*
Kitchen counters/hearth: *Fireslate*
Sink and fittings: *Elkay*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**

THE NEW, INCOMPARABLE

Presidential TL™

TRI-LAMINATE SHAKE SHINGLE

We challenged our research center to give us the thickest asphalt shingle ever made, and they developed the world's premier **Tri-Laminate.** Shingles so thick they cast their own shadows to create a dramatic cedar shake effect. But, never to rest on their laurels, they took their know-how to an even higher level with the beautiful new **Presidential TL.** An even thicker Tri-Laminate to make luxurious homes look even more luxurious. Engineered with the highest **UL Class "A" Fire rating** and **UL Wind rating,** and **3M™ Algae Block™** to protect them from dark, dingy effects of algae build-up. **Presidential TL** features a **Lifetime Transferable Warranty,** and has earned the coveted **Good Housekeeping Seal.** One more example of the knowledge we have to share with you about Celotex building materials. To learn more, visit our learning center, Celotex Tech, at www.celotex.com, or call 1-800-CELOTEX. "We're the company you can talk to."

THE INCOMPARABLE PRESIDENTIAL TL HAS BEEN SELECTED FOR *SUNSET MAGAZINE'S* "IDEA HOUSE 2000."

Good Housekeeping Promises

"Celotex® Tri-Laminate Shingles have earned the prestigious GOOD HOUSEKEEPING Seal which means GOOD HOUSEKEEPING stands behind this product."

3M Algae Block
Copper Roofing Granule System

Celotex

Build On Our Knowledge™

CEILING TILES / SHINGLES / GYPSUM BOARD / RIGID FOAM INSULATION

CIRCLE 72 ON INQUIRY CARD

© Celotex Corporation, 1/00

Colorful license plates join wood shingles and recycled goods in the Hester/McNally House

By Lisa Findley

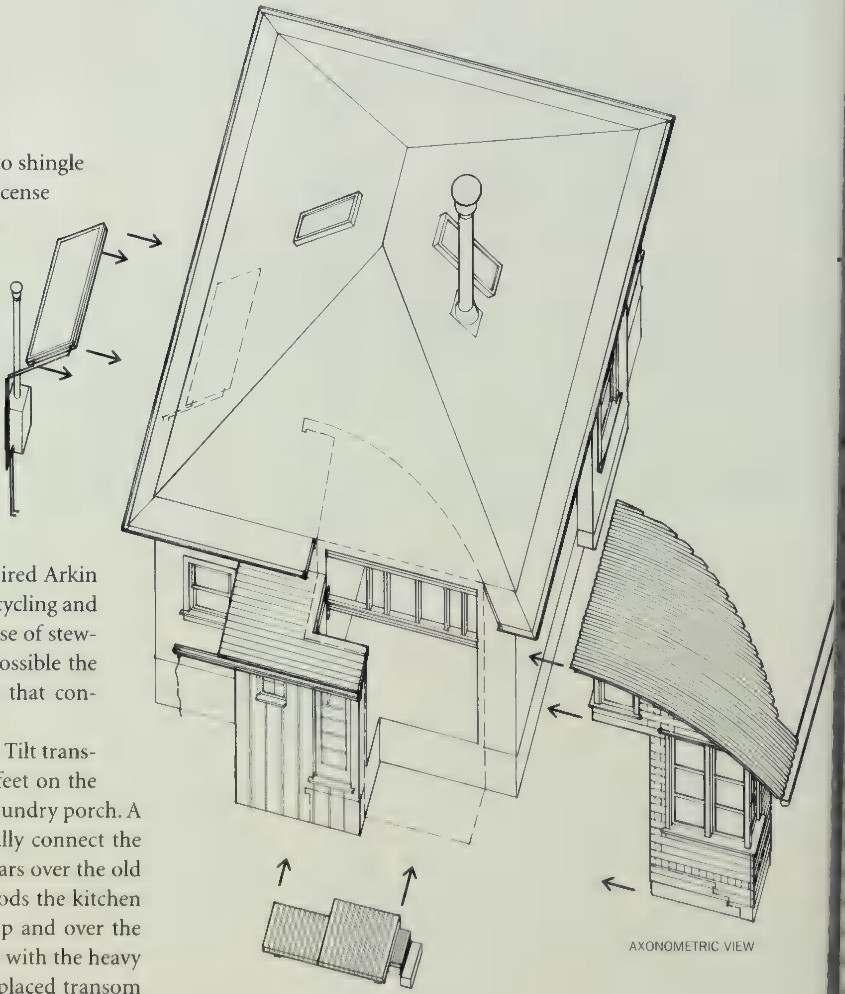
During hard times, rural do-it-yourselfers used to shingle small buildings in colorful and durable old license plates, picked up at the junkyard. Young Berkeley-based architects David Arkin, AIA, and Anni Tilt unwittingly rediscovered this delightful tradition in their $55,000 addition/remodel for two professors of ecology and community design.

The house, in Berkeley, California, began as a 700-square-foot 1920s bungalow, whose back garden has evolved into a composition of found objects and plantings with a flock of live chickens and ducks. But the north-facing eat-in kitchen was dark, too small, and without a connection to the garden beside it.

To enlarge and open the kitchen, the owners hired Arkin Tilt Architects, who shared their explicit dedication to recycling and zero-waste specifications. This approach, driven by a sense of stewardship about limited resources, meant that wherever possible the building integrated reprocessed or used materials, and that construction waste was kept to a minimum.

With straightforward, clean gestures, Arkin and Tilt transformed the kitchen. They added an efficient 28 square feet on the garden side and extended the space by enclosing an old laundry porch. A glazed door and large windows bring in light and visually connect the garden and kitchen. Above the new spaces, the ceiling soars over the old roof to create a south-facing clerestory window that floods the kitchen with sun. The resulting corrugated metal roof curves up and over the back door, and is detailed with a thin edge that contrasts with the heavy craftsman eaves of the rest of the house. The architects placed transom windows in the wall between the kitchen and living room to bring daylight into both spaces. In the living room, below the transoms, new niches hold books and objects. And Arkin and Tilt's integral-color concrete fireplace surround is textured with impressions of leaves.

The project's recycled elements include a locally produced terrazzo-like countertop of fragmented automotive glass and an 1882 railroad tie used as a header over the eight-foot-tall opening between the old and new. A salvaged window, installed low in the wall of the old laundry room (now dubbed the "Frog Viewing Room" for its views of a tiny pond) has a planed recycled lumber sill. Recycled redwood forms a deck with steps leading down to the garden. An old limestone fence post on its side provides the bottom stair. "Plyboo," laminated bamboo, covers the 28 square feet of added floor space. Thin strips of hardwood set the bamboo apart from the adjacent flooring—exposed, refinished fir subfloor—i the original space.

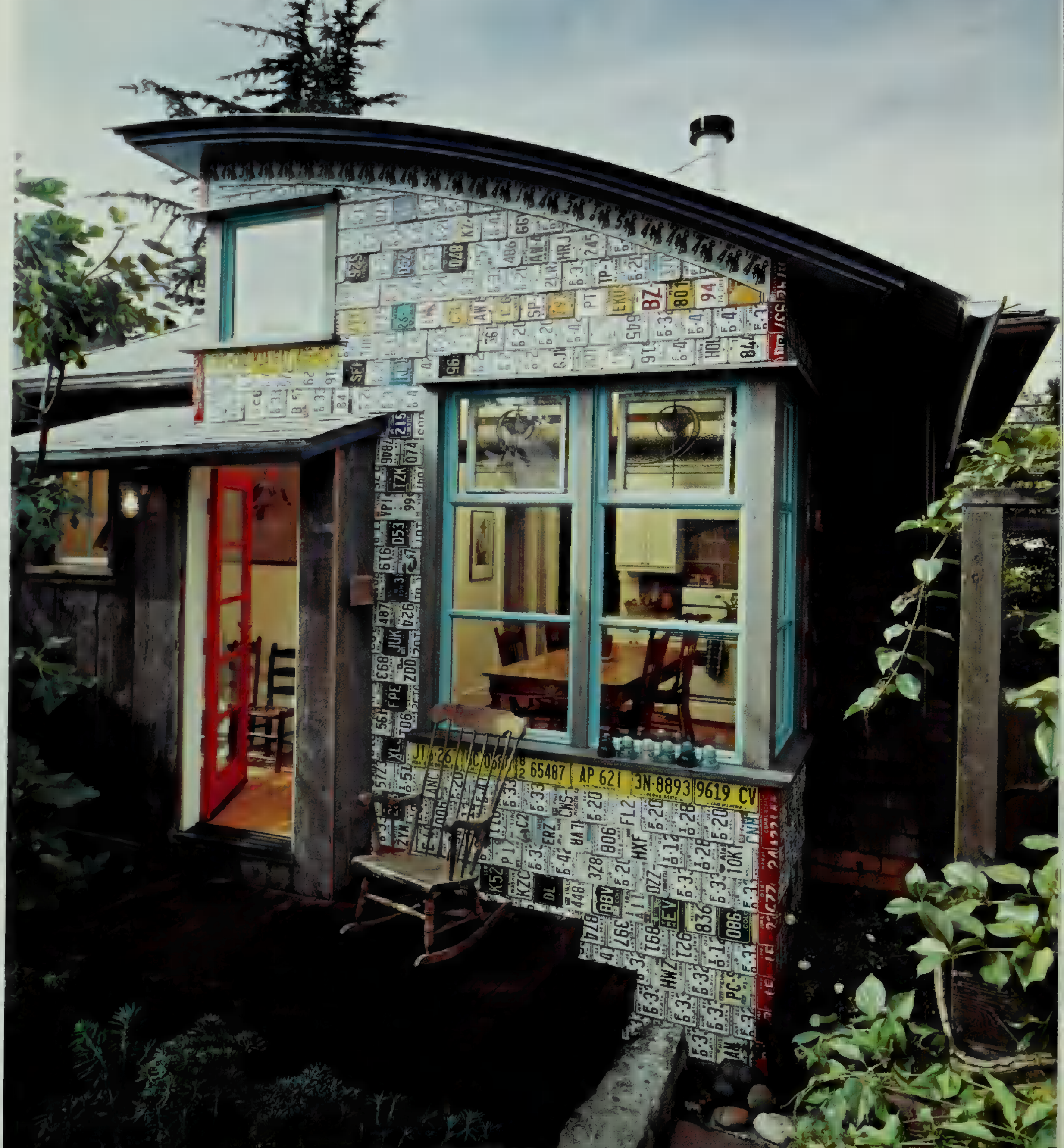


AXONOMETRIC VIEW

Perhaps most telling of the passion invested in the project is th story of the license plates. While seeking a way to sheathe the addition i a durable, recycled material, the architects happened upon a shed covere in old rusted tin cans in California's Sierra Nevada range. It inspired ther to ponder other metal coverings and eventually led to the idea of licens plate shingles. When the architects suggested this sheathing for th addition, the clients began gathering plates. Their collecting, however, w not random. Friends, relatives, and the Internet were enlisted to find

Lisa Findley, an architect, is RECORD's California correspondent. She is currently an adjunct professor at the School of Architecture of the California College of Arts and Crafts.

Project: *Hester/McNally residence remodel*
Owners: *Randy Hester and Marcia McNally*
Architects: *Arkin Tilt Architects; David Arkin, AIA; Anni Tilt—partne in charge.*
General contractor: *Chris Polk*
Landscape: *Randy Hester*



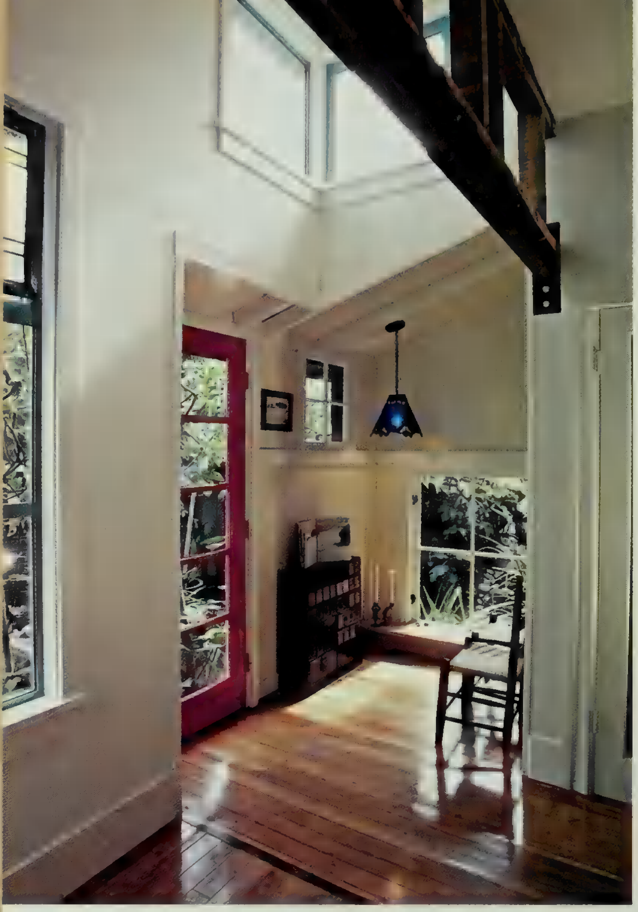
icense-plate cladding n a new addition himsically plays off ie bungalow's original ood shakes, as seen efore the renovation elow). The rear cade now opens the tchen to light and ews (right), raising ie ceiling to create a erestory beneath a iw curving corrugated etal roof.

THE CONTRACTOR played a key role in this group project. *Like the architects and their clients, contractor Chris Polk was dedicated to zero-waste construction and reclaimed materials. As with any addition, many details had to be worked out on-site, and Polk worked closely with the architects and clients, modifying the old building to accommodate the extension. He describes the process as follows:*

We were all deeply committed to low-impact ecological concerns, which gave this teeny exercise huge symbolism. Underlying its whimsical nature is a serious dedication to principles. An unusual confluence of people, with like values, cared about every aspect of this small project, paying it an almost-inordinate amount of attention. But everyone tolerated the situation because we all loved the project. If we'd been working with more formality, I can't even begin to count the number of change orders we would have had in the seven months it took to complete the work.

The clients were tuned in to the process and have very sharp eyes. Nothing escaped their attention. This could have been a recipe for on-the-job tension, but, in this case, the input was generous and positive. I have never dealt with a project where the clients were so involved. They were interested in every nook and cranny.

Overall, we tried to create continuity between the old and the new. Instead of hiding connections, we wanted to articulate them carefully and consistently to give a sense of wholeness in the way the pieces relate to one another.



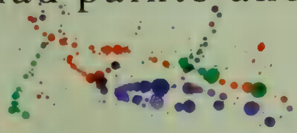
With large, salvaged windows, a glazed door, and new clerestory lights, the formerly dark laundry room is now animated by daylight (left). Beneath transom windows, a new integral-color fireplace surround is textured with impressions of leaves (below).

license plate from every state, including special ones from the clients' years and states of birth, and personalized plates from relatives across the country. After more than 670 plates were assembled, one of the clients made a detailed map of a Mondrian-inspired pattern for the specific placements. He then worked hand in hand with the contractor to put each item in its proper place. The result, a playful pattern in a range o colors, invites close inspection, revealing the names of far-flung states and humorous vanity plates.

A deep commitment to zero-waste construction and reclaimed materials guided the renovation.

Arkin says the modest remodel/addition has prompted "more debate per square foot" than any project they have ever done. With two architects, two community-designer clients, and a creative contractor who was fully committed to the project [see sidebar], every small detail, corner, and connection was consciously designed. One of the project's great challenges was to define a clear approach for integrating the new and the old. The architects devised a set of rules

Picasso had paints and canvas.



Einstein had time and motion.

You have the art and science of Vetter windows.

Builder: Ramey Construction, Inc. Architect: Douglas MacMillan

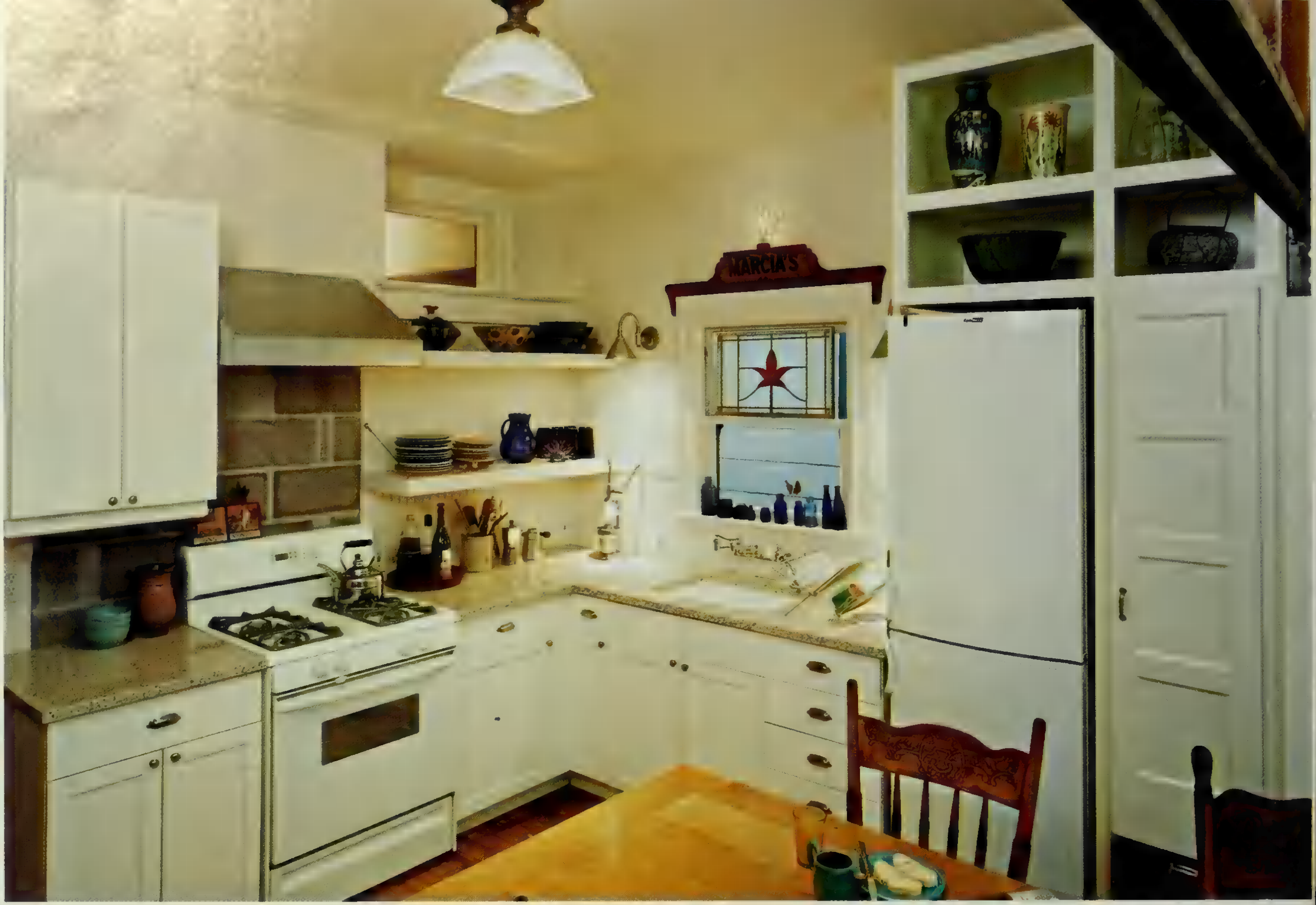
The union of beauty and technology has always been the right combination for truly great ideas – ideas that not only improve our world, but stand the test of time. You can see it in the creations of those we recognize as the greatest minds in history. And it can be seen in every home you create with Vetter Windows.

Find inspiration at www.vetterwindows.com, where you'll find product information and door-to-door directions to the Vetter dealer near you. Or call 1-800-VETTER-2. Vetter Windows. The art of smart home builders and designers.

WINDOWS & PATIO DOORS
100
Vetter
Unforgettable.

Vetter 888 Southview Drive Mosinee, WI 54455 www.vetterwindows.com © 2000 Vetter, SNE Enterprises, Inc. A Nortek Company

CIRCLE 73 ON INQUIRY CARD



for their broad palette of materials. They often broke or revised their own rules, however, at corners.

The attention lavished on this project yielded uneven results. In some places, this intense focus produced beautiful effects, while elsewhere the outcome is more self-conscious and overworked, such as the area where the new floor is set off from the old. Overall, the project succeeds in opening the calm, dark interiors of the existing craftsman bungalow through a sunny, collaged-on addition. On the exterior, the license-plate cladding and exuberant new roof curve create a facade in harmony with the garden, where collected rocks and scavenged objects are carefully placed. The project's vernacular quality, however, sometimes seems at odds with details that are almost too refined. Yet like any lovingly crafted object, this idiosyncratic and deeply personal place exudes life. ■

Sources

Roofing: *BHP (curved corrugated Zincalume panels)*

Paint: *Benjamin Moore*

Lockset and hinges: *Schlage*

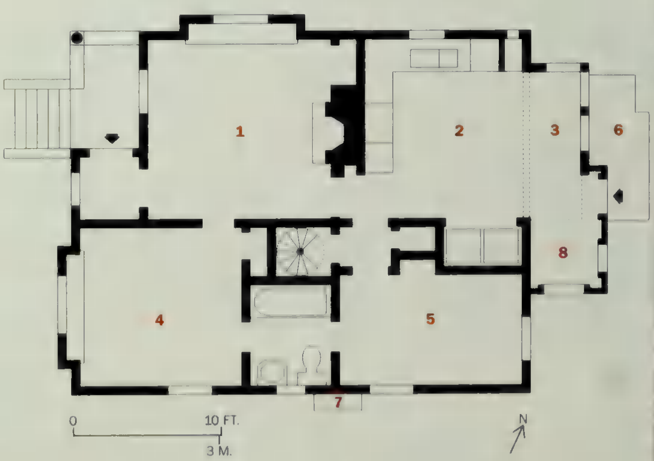
Cabinets: *Ikea; Phoenix Biocomposites (composite panels of soy with sunflower-seed hulls)*

Countertop: *Counter/Production (custom, precast recycled glass)*

Fireplace surround: *Sonoma Cast Stone (custom concrete)*

Flooring: *Smith & Fong (bamboo strip)*

The kitchen (this page) has a salvaged stained-glass window, a countertop of recycled automotive glass, and a railroad tie used as a steel beam (top).



1. *Living*
2. *Kitchen*
3. *Addition*
4. *Bedroom*
5. *Study*
6. *New deck*
7. *Solar water heater*

ROHL

TUSCANY

ROHLs' Tuscany Bath Collection combines comfortable dimensions with elegant designs, quality finishes and expertly engineered 1/4-turn ceramic valves. Choose from 15 possible faucet designs, a complete accessory collection, and coordinating showerheads and hand sprays to add the ideal accent to a master bath, powder room or shower. Available finishes include Satin Nickel, Polished Nickel, Inca Brass, Chrome and Tuscan Brass. ROHL is a leader in providing exclusive bath and kitchen products for America's finest homes. ROHL offers available inventory, technical support and a commitment to customer service. ROHL products are available nationally through a network of representatives, distributors and dealers.

Call or visit our Web site learn more about ROHL products and locate your nearest dealer.

ROHL

1559 Sunland, Costa Mesa, CA 92626
(714) 557-1933 • Fax (714) 557 8635
New York Metro • San Francisco
www.rohlhome.com

CIRCLE 74 ON INQUIRY CARD

wallboard + mouse = nationalgypsum.com

Making expert decisions has never been simpler. Just log on to nationalgypsum.com fo the most comprehensive gypsum products informatio on the web. Designed for ea of use, it's the only formula you need to make expert decisions, and just what yo expect from the gypsum industry's service leader.

National
Gypsum
COMPANY

CIRCLE 75 ON INQUIRY CARD
www.nationalgypsum.co
1.800.NATIONAL

Return of porch pride

response to the growing number of omeowners eager to add porches to eir home designs, Style Mark Inc. has created a balustrade system they claim is virtually maintenance-free. The porch system is made from high-density urethane that resists insect infestations and ultraviolet rays. The porch posts are made from steel rods and contain fiberglass throughout the rails to ensure sturdiness. Nine styles of balustrade systems in a wide variety of sizes are offered. 800/446-3040. Style Mark Inc., Archbold, Ohio. **CIRCLE 200**

Block options

durable wall system is availle from Anchor Wall Systems' rtica and Diamond series. With geosynthetic reinforcement, the wall systems n be built anywhere from 3 to 30 feet. Options of straight or beveled faces are ailable on both the Vertica and Diamond blocks. The Vertica series uses built-in cators to assure proper alignment and a four-degree batter. The near-vertical rise eans less excavation and land loss. 800/473-4452. Anchor Wall Systems, innetonka, Minn. **CIRCLE 201**

Remodeling with ersonality

modeling the outside of ome is just as important as remodeling the ide. The Exterior Design llection, a new program m Owens Corning, kes the age out of a me's architecture. Owens Corning does this by adding contemporary sid- options and refined architectural accents. The Exterior Design Collection tends the personality of a home all the way to the curb. The collection tures five thematic categories that match products and colors with a stomer's style. 419/248-8000. Owens Corning, Toledo. **CIRCLE 202**

▼ Headers above the rest

Builders Edge shutters and window headers were developed for easy installation to any siding material and are available in a variety of sizes. The product is made from a durable copolymer material and never needs repainting due to UV stabilization. The fasteners on a window header are covered, providing a finished look, and distinctive keystones are available. Each window header and shutter is backed by a 40-year warranty. 800/350-1706. Builders Edge, Pittsburgh. **CIRCLE 203**

▲ Polyurethane holds up

Therma-Tru Doors has added raised panel designs to its line of Smooth-Star fiberglass doors. The new three-dimensional detailed panels create shadow lines and offer the strength of steel doors without dents and rust. Also, the doors have the smooth look of painted wood without warping or splintering. According to Therma-Tru, their solid polyurethane foam core insulates five times greater than wood. 800/843-7628. Therma-Tru Doors, Maumee, Ohio. **CIRCLE 204**

▲ Radius patio doors

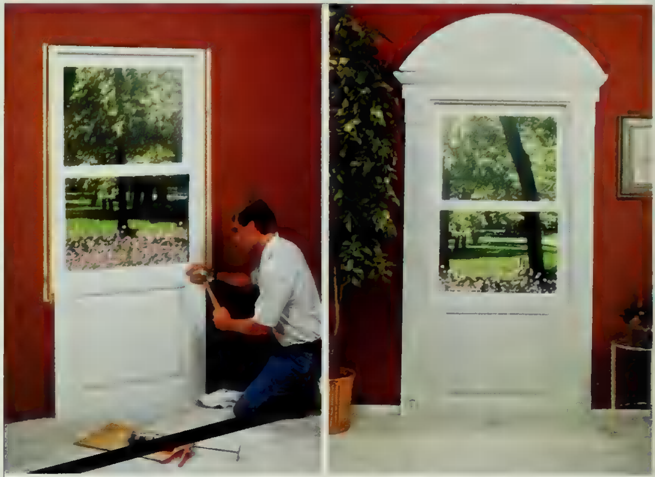
New technology, applied by Pozzi Wood Windows, has resulted in the Pozzi clad radius patio door. The new door exterior is available primed for painting or with Pozzi exterior cladding. Pozzi offers the exterior aluminum cladding in six standard colors, 25 Designer Choice colors, and custom color matches to complement nearly any exterior. Pozzi windows and doors retain their color after many years of exposure to the elements. 800/257-9663. Pozzi Wood Windows, Bend, Ore. **CIRCLE 205**

▲ Old designs, new touch

The archival flooring designs in Armstrong's new collection, New Generations/Classics Contemporized, focus on updated versions of vintage designs. The collection features vinyl flooring in four patterns in a variety of colors. The floors also have a patented CleanSweep wear layer. 717/396-4197. Armstrong World Industries, Lancaster, Pa. **CIRCLE 206**

▼ Stones with culture

Cultured Stone Used Brick veneer looks like full-thickness brick, but it is only half an inch thick. It can be installed anywhere without the expense of additional foundation support. With a large variety of stones, brick, and architectural trim products, the line is durable and colorfast indoors or out. 800/255-1727. Cultured Stone, Napa, Calif. **CIRCLE 207**



▲ Bringing products from the outside, in

By borrowing from the decorative products used on the outside of a home, Style Mark and Architectural Accents have created interior-window surrounds. The low-maintenance urethane millwork pieces install quickly and can be marbleized, faux, or texture-painted. The millwork can be added on any or all of the four window sides. Panels below the windowsill add depth and overall style to the window unit. 800/446-3040. Style Mark, Archbold, Ohio. **CIRCLE 208**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

trademark of KitchenAid, U.S.A. © 2000. All rights reserved.

CIRCLE 76 ON INQUIRY CARD

▾ Replacement windows to the soul

Featuring a contoured lift rail and triple-stepped sloped sill, the Simonton Impressions 7500 replacement window promotes faster water runoff. Insulation is provided by multiple-chambered profiles that create dead air chambers inside the frame and by ¾-inch glass penetration into the sash. The replacement windows are available in many styles, such as double-hung, patio door, picture, bay, and bow. Many grid and color options are also included. 800/542-9118. Simonton Windows, Parkersburg, W. Va. **CIRCLE 211**

◂ Living in a vacuum

Due in part to bigger homes with more square footage, central vacuums are making a comeback. The new Dimension 2000 central vacuum from Hoover is simple to install whether in an existing home or in a new construction. The vacuum has a three-stage motor, a 8.4-gallon capacity, and 530 maximum air watts. The power unit has a 5-year warranty while the suction motor comes with a 10-year warranty. 330/499-9200. Hoover, North Canton, Ohio. **CIRCLE 210**

▸ Precision fit windows

The new Pella Precision Fit replacement window system provides homeowners who need to replace their windows with a simple and economical solution. The windows arrive fully assembled and factory-tested. Customers can choose from three exclusive Pella double-hung sash options. The windows also feature an accessory groove on the exterior that can be used as an exterior trim. Pella has a 20/10 Limited Warranty (20 years on glass, 10 on other components). 880/84-PELLA. Pella Corporation, Pella, Iowa. **CIRCLE 209**

or more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

---

Introducing the new Dishwasher Series from KitchenAid.
Totally redesigned, it's flexible enough to accommodate everything from delicate stemware to large cookware. The innovative wash system is quiet yet powerful. With door panels that can be easily customized and new split controls, this dishwasher is an efficient and beautiful way to leave a lasting impression. To learn more about the Dishwasher Series, and to view the entire KitchenAid® line, visit www.KitchenAid.com, or call 1.800.422.1230.

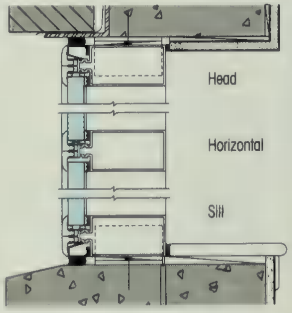
KitchenAid™

FOR THE WAY IT'S MADE.

EFCO® CURTAIN WALL LETS YOUR IMAGINATION GO SOARING WHILE PROJECT PARAMETERS STAY ON THE FLIGHT PLAN.

Now the horizons are within your reach. Narrow sightlines and unobstructed views. Curved walls and slopes. A panorama of colors. And zero water infiltration.

Discover EFCO Series 5800 Silicone Gasket Curtain Wall System. It's the only one with a unique silicone gasket that allows narrow 2 ½" sightlines and low profiles. You can design curved walls using flat infills up to 7° off-axis, or create slopes down to 20° from horizontal. And the patented gasket is impervious to harmful U.V. rays, water, temperatures, and pollutants for the lifetime of the building.



Series 5800 silicone gasket is pigment dyed throughout for continuous color; choose from standard EFCO colors, or unlimited custom shades. And Series 5800 is compatible with the complete line of EFCO windows, storefronts, and entrance systems.

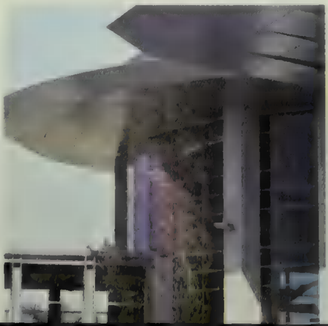
Let your creativity take flight. Ask your EFCO representative about Series 5800 Silicone Gasket Curtain Wall System, call EFCO direct at 1-800-221-4169, or visit our Web site at www.efcocorp.com.

Product: EFCO Series 5800 Silicone Gasket Curtain Wall System

Architect: Gensler & Associates

Building: San Diego International Airport

Erector: Tower Glass, Inc.



EFCO
WINDOWS
CURTAIN WALLS
ENTRANCES
STOREFRONTS

CIRCLE 77 ON INQUIRY CARD

©1999 EFCO Corporation

New Products

When specifying glass, architects will notice a new class of low-emissivity products, a wider choice of coatings, and the increased popularity of double-glass wall structures [see page 171]. This month we feature several products and fabrications that push the material to new limits. *Rita F. Catinella*

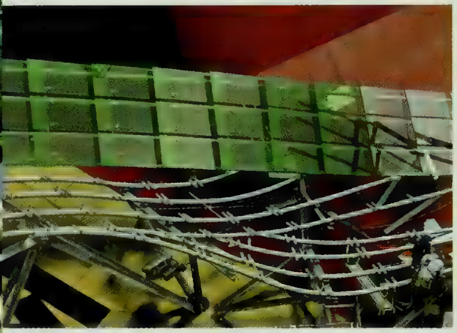
FABRICATORS HELP GEHRY BEND THE RULES OF DESIGNING WITH GLASS

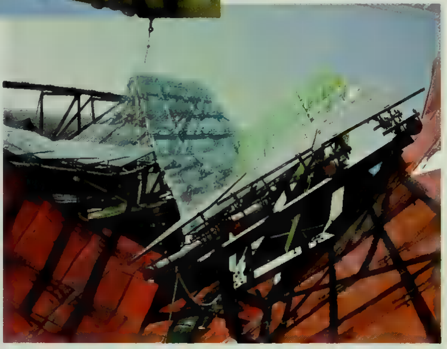
t's not surprising that Frank O. ehry's name appears more than nce on a list of new projects esigned with unique glass fabrica- ions. His firm has recently worked ith fabricators who are able to anipulate glass in ways that emu- ate everything from, in Gehry's ords, "reeds swaying in the reeze" to less organic objects.

Gehry's first commercial pro- ect in the Pacific Northwest, the xperience Music Project (EMP), is n interactive music museum con- eived by Paul G. Allen and Jody atton. The EMP collection includes ore than 80,000 artifacts that elped shape music history, includ- g Allen's collection of Jimi Hendrix emorabilia, the largest in the orld. A grand opening of EMP is cheduled for June 23, when visitors ill explore the 140,000-square-foot pace, which has been anticipated ith mixed emotions) since the oundbreaking in June 1997.

Cricursa Cristales Curvados, a panish fabricator, helped bring the chitect's design to life by produc- g 7-by-2.8-foot laminated glass uitar strings" for the project. The itar strings were designed with 21 units of color-tempered lami- ated glass (top right and bottom ght). These units are fabricated from two plies of 10-millimeter clear-tempered float glass laminated with polyvinyl butyral (PVB) and a chromafusion film. The lamination process was performed at Cricursa's facilities in Barcelona. Each glass unit is supported with iron steel connectors, manufactured by Trypiramid, which go through glass holes (detail shown, right). Cricursa also collaborated with glazing contractor Permasteelisa (who worked with Gehry on the Guggenheim and the Condé Nast cafeteria) and with glass installer Crown Corr.

"The challenges of the project were to match the blue and green colors exactly as desired at Gehry's office [achieved with Cesar Color technology] and the tolerances requested to fit the glass in the complex metal structure," says Cricursa, marketing director Jordi Camps Arbestain. The company also fabricated the striking curved glass for architect Rafael Moneo's Centro Kursaal project in San Sebastián [May 2000, page 212], and the Skywalk for Expo 2000 in Hanover, for Schulitz+Partners.





Clockwise: Detail of the metal connectors for the EMP; installation of the individual glass units. Below: Although CTEK's panels weigh 700-800 pounds each, they seem to float on air.

Check out those curves

For another Gehry project, the Condé Nast cafeteria at 4 Times Square in New York [June 2000, page 116], the Santa Ana–based company CTEK created a new medium of complex curved architectural safety glass. Seventy-six giant panels, resembling molten glass shaped by the wind, were used to partition the space. Clear glass is used in the corporate cafeteria, while frosted glass was used to create private dining rooms. Each of the ⅞-inch-thick, approximately 12-by-4-foot panels is one-of-a-kind; the panels are made from two pieces of glass that are slumped in computer-controlled ovens over a mold that reproduces Gehry's specific shape for each panel. They are then taken out, cooled, and laminated using a cold cure liquid resin; a process that allows the size of the panels to be much larger. The design process was aided by the fact that CTEK, a company originally established to do modeling and prototypes for the West Coast's automobile industry, employs the same CATIA software for computer-aided design used by the architect. CTEK has the five-axis Computer Numerical Control (CNC) equipment that allows the architect's data to be directly translated into the ultimate shape envisioned by Gehry.

"This is the glass as it never has been done before," explains Fred Adickes, who founded CTEK along with his son Eric. "With our software and CNC technology, we can take an architect's design data in digital form or as two-dimensional drawings, and model or prototype the design in three dimensions to precise specifications."

The fantastic possibilities of this process do not stop here. CTEK has recently installed a 30-foot, five-axis CNC mill that makes even larger panel sizes possible.

34/93 840-4470. Cricursa Cristales Curvados, Barcelona. CIRCLE 212

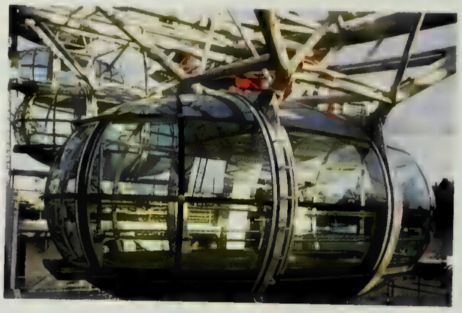
714/431-1190. CTEK, Santa Ana, Calif. CIRCLE 213

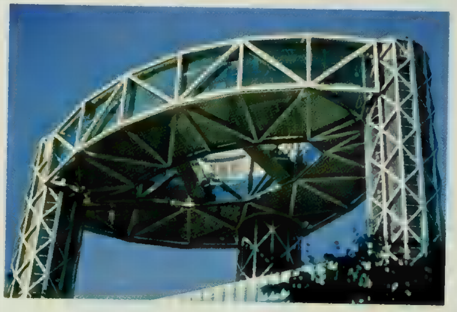
DUPONT BENEDICTUS AWARD HONORS INNOVATIVE USES OF LAMINATED GLASS WORLDWIDE

The DuPont Benedictus Awards program is an annual international competition to recognize significant and enterprising uses of laminated glass by both professional and student architects. This year's winners were announced on May 5, at a ceremony held during the AIA convention in Philadelphia.

The Germany-based firm of Fink+Jocher Architects won the award in the commercial division for the AUDI Development Center in Ingolstadt, Germany, and Fougeron Architecture of San Francisco won the residential award for the design of a private house in Palo Alto, Calif. Eric Owen Moss, of Culver City, Calif., was honored with a special recognition award for the Umbrella, an outdoor amphitheater space located at the roof level of two contiguous warehouse structures in Culver City. These structures were remodeled and converted to production and post-production uses.

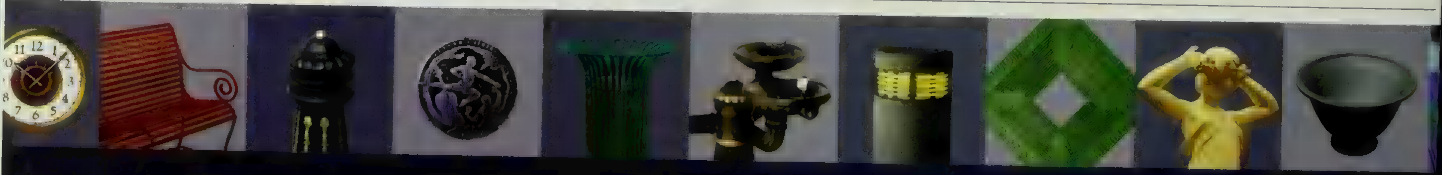
The judges designated the following firms for special recognition: Rafael Viñoly Architects PC, for the Samsung Jong-Ro Building, Seoul, Korea (below); Arup Facade Engineering, for the Corporation Street Bridge, Manchester, England; Jutta Schürmann und Peter Schürmann, for the Pavilon Domshof in Bremen, Germany; Ingenhoven Overdiek und Partner for the AUDI AG Messestand, first seen in Frankfurt and later in Tokyo, Detroit, Geneva, and Paris; Ray King Studio Ltd., for *Light Wave*, a sculpture in the Library Reading Room of Rowan College in Glassboro, N.J.; Hugh Newell Jacobsen, FAIA, for the Scheer House in Vero Beach, Fla.; and Marks Barfield Architects, for the Millennium Wheel in London.

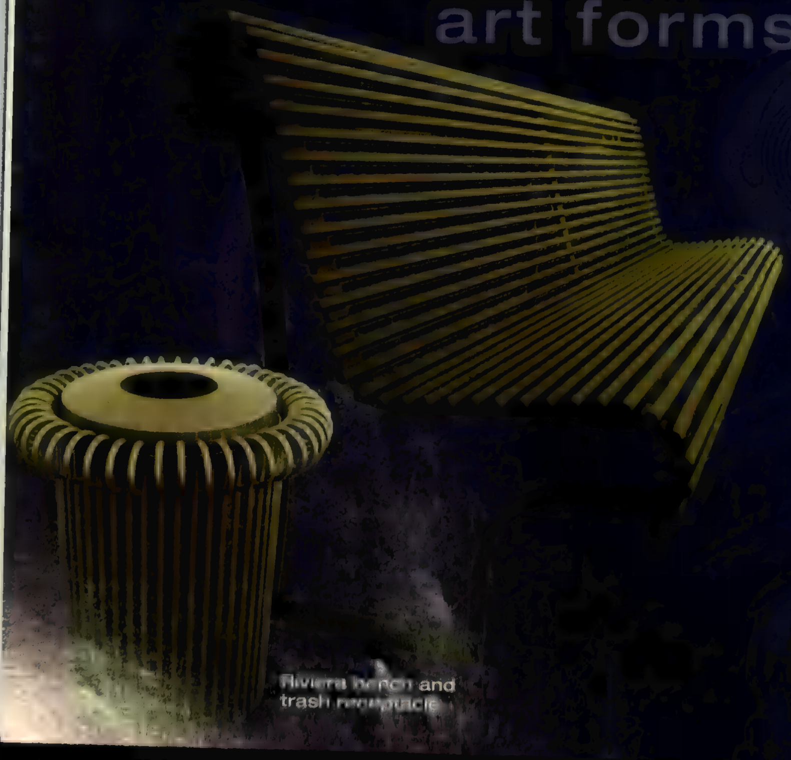




The London Eye capsules, one of the more unusual award winners, (above) are made entirely with laminated glass, except for the floor. The tough (PVB) plastic interlayer in laminated glass gives the glass panels the strength to withstand the weight of six people per square yard. In addition to ensuring safety for the passengers, laminated glass also reduces outside noise.

The awards program is a collaborative effort of Dupont and the AIA, with worldwide support of the Union Internationale des Architectes (UIA). The two winners received a new original sculpture, a crystal parallelogram constructed to catch and split light beams, designed by James Carpenter, a New York artist working in architectural laminated glass. 202/393-5247. The Dupont Benedictus Awards, Washington, D.C. **CIRCLE 214**





art forms for public spac

Riviera bench and trash receptacle

from traditional to hi-tech, from old-fashioned to contemporary, from luxurious to affordable, from standard to custom, from monochrome to color, from relaxing to provoking — Canterbury International has been your source of architectural site furnishing for over 40 years!

For a complete catalog call
Canterbu
Internati
1-800-935-
or look us up at
www.canterbury
CIRCLE 78 ON INQU

INSPIRED DESIGNS NOW ARRIVING AT GATE A

Contemporary yet historical. Beautiful yet secure. And it had to give more than three million parking patrons a well-marked path to their flight. From the beginning, the new garage at National Airport was a study in contrasts.

The finished project is a shining example of steel and glass block. Pittsburgh Corning Glass Block. "We started with the vertical elements of the garages — the elevator towers — and using the VUE® pattern, turned it into a virtual wayfinder system. Then, we continued that theme with small wayfinder devices — information pylons using ESSEX® AA — throughout the interior of the garages."
– Graham Davidson, architect

Every day, we help architects like you design bright, beautiful buildings that address the evolving needs of today's clients. With the widest selection of glass block designs, sizes and accessories. And the most experienced technical service professionals in the business. Count on Pittsburgh Corning to help bring your visionary solutions to life.

Call us at 1-800-992-5769 for information on Pittsburgh Corning Glass Block or to recommend one of your projects for future "Profiles." To see more visionary solutions, ask for our Idea Book or visit our newly updated website at **www.pittsburghcorning.com.**

Terminal A parking garage at
National Airport in Washington, D.C.
Architect of record: HNTB Corporation
Design architects: Hartman-Cox Architects
Graham Davidson, FAIA

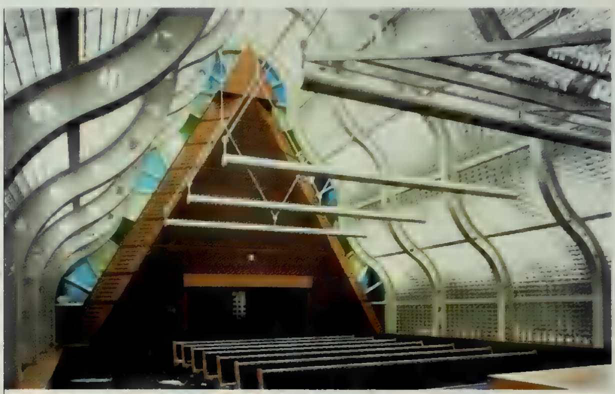
CONTINUING EDUCATION
AIA

PITTSBURGH
CORNING
GLASS BLOCK™

CIRCLE 79 ON INQUIRY CARD

▼ More glass, less frame

Established in 1887, Glasfabrik Lamberts has produced all types of cast glass, including LINIT U-profiled glass. Thanks to its cross-sectional shape, LINIT glass has excellent load-bearing capacities in comparison with flat glass sheets, which means that it can be installed in considerable lengths (in excess of 20 feet long depending on the design, wind, snow, etc.) without any horizontal or vertical supports. The result is a facade which provides a maximum of glass and a minimum of frame profile. Available in Europe for 50 years, the clear glass is made in an environmentally friendly, oxygen-fired cast glass furnace, then drawn over steel rollers to form a continuous glass channel. 800/835-5304. Bendheim, New York City. **CIRCLE 215**

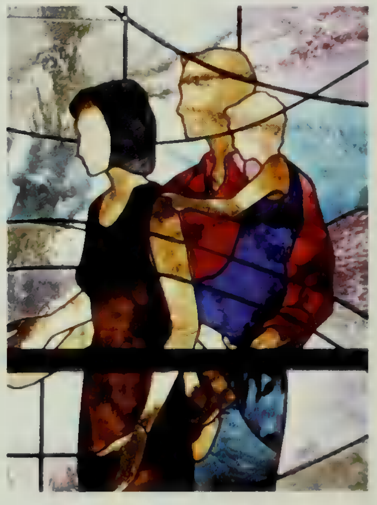


▲ Rays of light from above

With its trademark undulations, the Decora Pattern, part of the Premiere series for Pittsburgh Corning Glass Block, provides maximum light transmission with subtle visual distortion. The nondirectional faces of the 3⅛-inch-thick glass block make for quick installation. The blocks range in size from 6 by 6 inches to 12 by 12 inches. Decora was used to brighten the Veteran's Administration Hospital Chapel in Detroit (above), in a design by Smith, Hinchman & Grylls. 724/327-6100. Pittsburgh Corning, Pittsburgh. **CIRCLE 216**

► Replicating historic glass

Joel Berman Glass Studios is one of only a few studios in North America that can cast glass in a way that meets the requirements of the Chrysler Building's restoration architects, Beyer Blinder Belle, and the scrutiny of the New York City Historical Board. To replicate the remaining glass panels, the studio made a mold of a sample of the original glass (which features a pyramid-shaped bump texture) that surrounds the building's entrances on 42nd Street and Lexington Avenue. 888/505-GLASS. Joel Berman Glass Studios Ltd., Vancouver. **CIRCLE 217**



◄ Contemporary classics

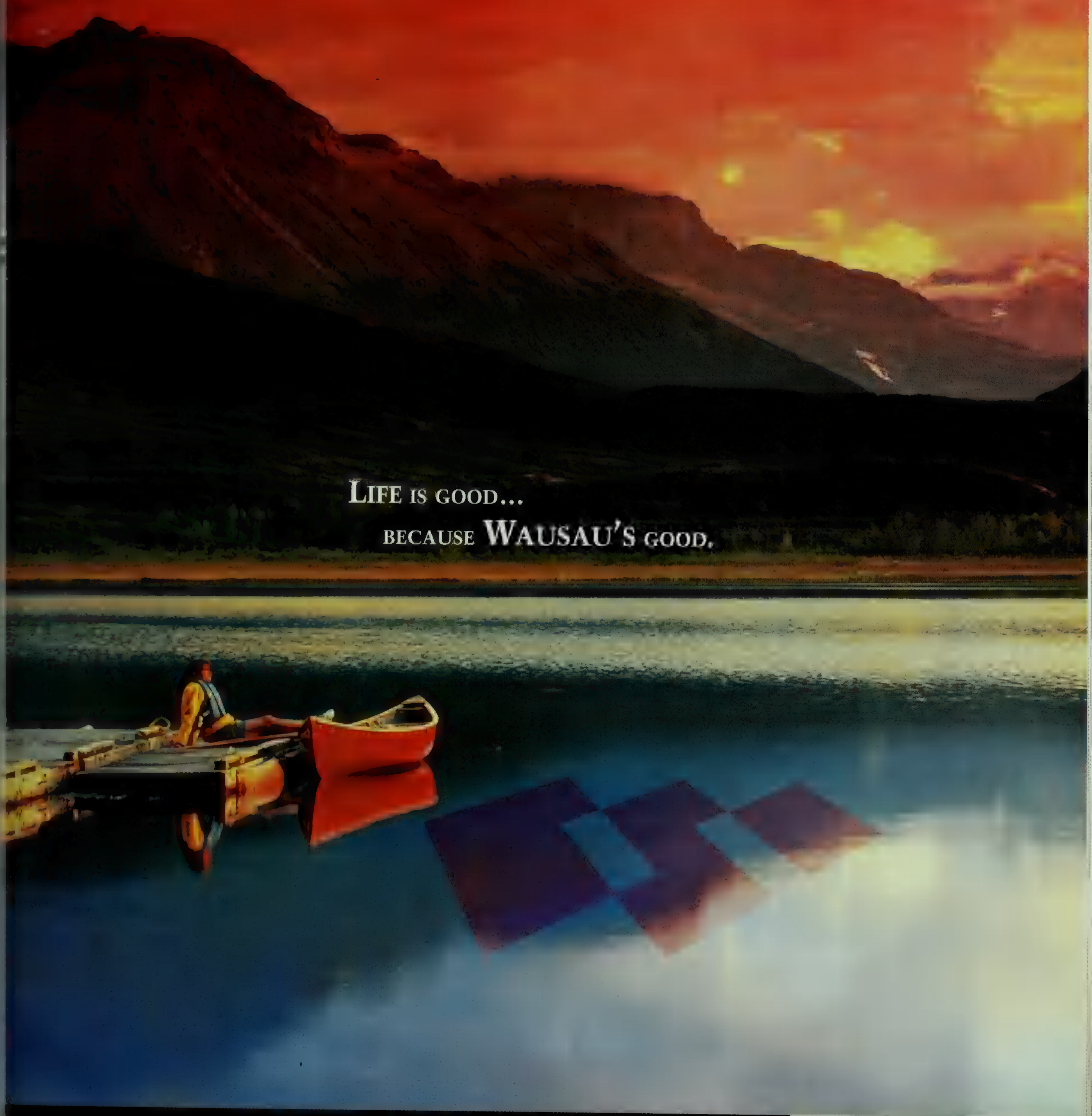
Over the past 19 years, Joseph K. Beyer has been offering design solutions for worship environments and the adaptive reuse of historic windows in new religious settings. His studio, Beyer Stained Glass, consults on the framing as well as the design, fabrication, and installation of stained glass. The detail shown here is of one of 17 installations in the Holy Martyr's Church in Orland, Pa. The figures take on an Egyptian, rather than a traditional Gothic, form. 215/848-3502. Beyer Stained Glass, Philadelphia. **CIRCLE 219**

▲ To see and be seen

ABC's Time Square Studios (home of *Good Morning America*) features Amiran anti-reflective glass in the ground floor and in the Marquee Studio, allowing passersby a voyeuristic view into the studio. From within the studio, the glass provides a view up Broadway for television viewers. Amiran reduces reflected light to as little as 1 percent, far below the 8 percent reflection of normal window glass (16 percent when double-glazed). 914/968-8900. Schott Corporation, Yonkers, N.Y. **CIRCLE 218**

▼ Clearly not green

Ultra-clear Starphire glass was reintroduced by PPG Industries earlier this year. Starphire Glass (below right) has a formulation enhancement compared with traditional float glass (below left) that results in higher visual clarity. In standard six-millimeter thickness, Starphire glass achieves 91 percent light transmittance. It is available in thicknesses from 2.5 to 12 millimeters. Visibly clearer than ordinary glass and without any greenish cast, Starphire glass has also been used in photovoltaics, mirrors, and furniture. 800/377-5267. PPG Industries, Pittsburgh. **CIRCLE 220**



HAT'S IN A NAME?

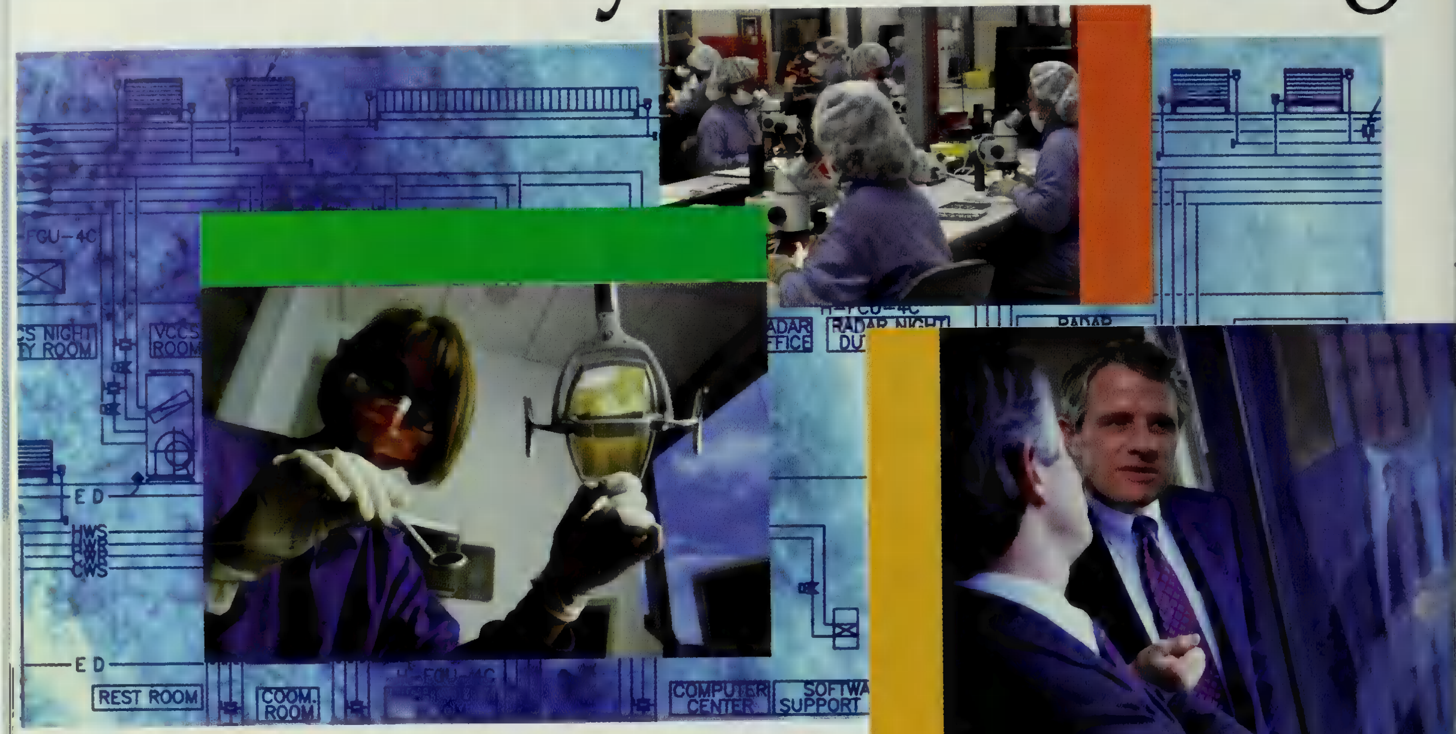
over 40 years, Wausau has built a tation manufacturing the most vative and most dependable dow and wall systems avail- . And we've offered architects, ding owners and contractors peace of mind. How? Precision engineering, the finest products and unrivaled customer service. That's how. Contact Wausau Window and Wall Systems today. Life is good…because Wausau's good.

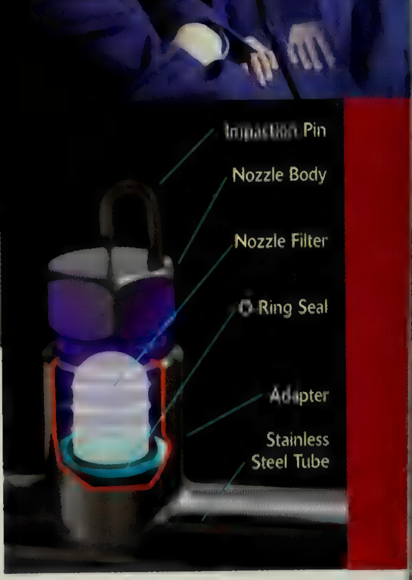
WAUSAU
WINDOW AND WALL SYSTEMS

CIRCLE 80 ON INQUIRY CARD

1.877.678.2983
www.wausauwindow.com

Save your energy. Humidify with Mee Fog.





Mee Fog high pressure humidification systems can help you meet tougher IAQ standards far more cost-effectively than other humidification methods. The concept is simple. High pressure water is forced through the special Mee Fog nozzles, which atomize the water into billions of quickly evaporating micro-fine fog droplets. No heat or compressed air is needed.

Dramatic energy savings.
By using just one horsepower to atomize 500 lbs of water, Mee Fog uses a mere 3% of the energy of compressed air systems and less than 1% of steam. Year after year, the energy savings are nothing short of extraordinary.

First-cost savings, too.
Mee keeps equipment and labor costs down, as well ... especially in sites where 200+ lbs. of water/hr. are needed.

Proven safe and effective for new installation and AHU retrofits.
Mee Industries brings a great deal of experience to commercial building humidification. Our high pressure fog technology is mature and has been field proven in numerous applications for decades. Founded in 1969 by former Cornell University research scientist and atmospheric physicist Thomas Mee, Mee Industries wrote the book on high pressure fog humidification.

Humidification Systems
A Cost & Efficiency Comparison

Call today for our informative White Paper

Are you talking to Mee?

626-359-4550
800-732-5364

www.meefog.com

MEE INDUSTRIES INC.

CIRCLE 82 ON INQUIRY CARD

Products Briefs

Highlights from the International Contemporary Furniture Fair (ICFF) held in New York from May 20 to 23 *Rita F. Catinella*

Give us our daily bath

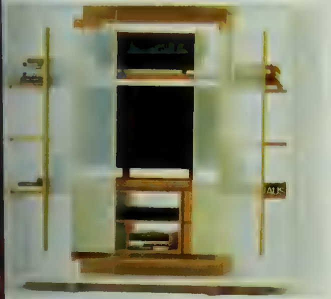
e new Giorno bathroom collection is homage to nature. With fittings from rnbracht, furniture and ceramic articles from Duravit, and a bath from Hoesch, the throom series is unified by the design of a leaf and a water droplet. Furniture and cessories feature a combination of aluminum, glass, and wood. Fittings are availe in a chrome or platinum finish. 888/DURAVIT. Duravit USA, Duluth, Ga. **CIRCLE 221**

► Making grandpa's trailer hip again

Christopher Deam, a San Francisco–based architect, redesigned the interior of a vintage 1948 trailer to appeal to a younger crowd. The kitchen cabinets, countertops, benches, table, floor, and additional detailing all feature Wilsonart laminate. The surface was chosen because it is lightweight, durable, and consistent with the aesthetic of the trailer. The laminates are layered to create fluid, multi-dimensional patterns, reflecting the growing interest in abstract designs and a departure from solid colors. 800/433-3222. Wilsonart International, Temple, Tex. **CIRCLE 222**

Media units with style

h a design based on a formal hitectural grid, the Mainframe dia Unit from Dakota Jackson is centerpiece of the Mainframe Collection. The grid appears as a basic white box, with sides of white lacquered wood, shelves of natural anigre, and a back of translucent white acrylic. Tension cables also offer additional support to the back of the media unit. The translucent panels change into clear glass six inches from the top and bottom to reveal shelves. An elongated light fixture attached to the back of the unit reflects light off the wall to illuminate the cabinet. 212/838-9444. Dakota Jackson, New York City. **CIRCLE 223**

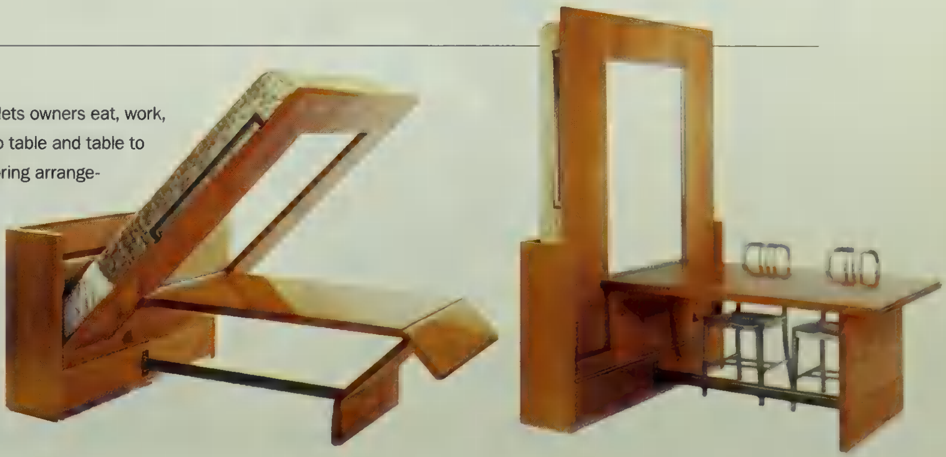


▲ Going retro in the home and office

The new Malibu collection from SKYPAD is a complete collection of 1950s retro industrial-style furniture for the home and office. The collection currently consists of 30 items divided into four categories: office, dining, bathroom, and occasional. Offered in five vibrant finishes of silver, orange, blue, white, and neon green, the collection was designed by Rutger Anderson, a industrial designer based in Sweden. 416/762-2929. SKYPAD, Toronto. **CIRCLE 224**

► Small space, double the furniture

Making double use of limited space, the Inova TableBed lets owners eat, work, and sleep all in one area. The transformation from bed to table and table to bed is accomplished with one fast, easy movement. A spring arrangement hidden inside the frame makes raising and lowering easy because no locking or latching is required. The TableBed is offered in a twin-, full-, or queen-size bed with a range of table sizes. A recessed area above the table may hold frosted glass, a mirror, or artwork. Solidly self-supporting and movable, the unit does not need to be bolted or attached in any way to the floor. 212/932-1447. nova Furniture, New York City. **CIRCLE 225**



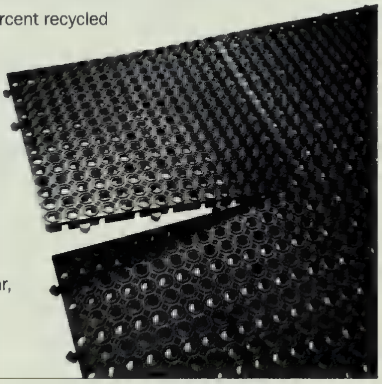
Products Briefs

▼ Kitchen computing

Thanks to a kitchen island developed by Nova Solutions, computers can now become a seamless part of the kitchen without compromising workspace. The station includes anti-reflective tempered glass with a spill-resistant trim, a concealed CPU shelf, and power cord. With a removable back panel, the computer island is convenient to access and can be moved easily on heavy-duty wood casters. The island also features a John Boos & Co. butcher-block top. 800/730-6682. Nova Solutions Inc., Effingham, Ill. **CIRCLE 226**

► Safely walking on the roof

Nova Walkway Pads, introduced by EcoStar, are an interlocking, safe roofing walkway system. The pads are manufactured using Starloy, a proprietary polymer made from 100 percent recycled post-industrial waste rubber and plastic. The Starloy compound provides a nonabsorbent, impact-resistant, nonslip, interlocking walkway system. The walkway's open octagon-grid design allows for the free flow of liquids below the pads. 503/525-9544. EcoStar, Vernon Hills, Ill. **CIRCLE 227**



► Self-regulating machine

Introduced at Neocon last month, Raptor seating from Allsteel features a patented inverse synchro-tilt movement. As the back of the chair tilts to the rear, the Raptor chair articulates forward. This motion causes the weight of the user's body to serve as a self-regulating tension mechanism. Ensuring that the seating shell distributes weight evenly, Allsteel engineers employed computer-assisted pressure mapping. The fiber-reinforced shell is supported by aluminum castings. 888/ALL-STEEL. Allsteel, Muscatine, Iowa. **CIRCLE 228**

▼ Cooking up options

The Gaggenau VK230 Steamer is part of the Vario System, a modular surface cooking concept. The system has unlimited configurations for gas, electric, and steam cooking. A full range of options for the built-in cooktop includes a deep fryer, an electric barbecue grill, and a gas wok. 800/828-9125. Gaggenau, Huntington Beach, Calif. **CIRCLE 229**

▲ Cutting corners

Installing finish materials and wall applications is faster with new product from Blue Maxx. The new four-inch form unit has eliminated the need to miter-cut non-90-degree corners. Also finish materials can be fastened to the new corner furring tab. Above, a worke cuts a six-inch standard Blue Maxx form unit. 905/373-8301. Blue Maxx, Cobourg, Ont. **CIRCLE 230**

▼ Private communications

The low-profile Platform Beam from Inscape can carry power and data cables from walls and columns or off-module from a central spine of Platform panels. It can also be freestanding, with end-of-runs supported by leg assemblies in L, T, and new Y configurations. Tables can nest or cluster around the communication beams. Lightweight screens may also be attached to the top of the beam for increased visual and acoust cal privacy. 905/836-7676. Inscape, Holland Landing, Ont. **CIRCLE 231**

◄ Stay secure inside

In response to the increasing reliance on key-card locks in hotels, Doorcraft's Wide Stile door has been created to allow these systems to be installed easily. Specifically designed for commercial applications, the door has a solid-core internal construction This accommodates door-closer installatio on the top rail and kick-plate installation o the bottom rail. 800/877-9482. Doorcraft, Klamath Falls, Ore. **CIRCLE 232**

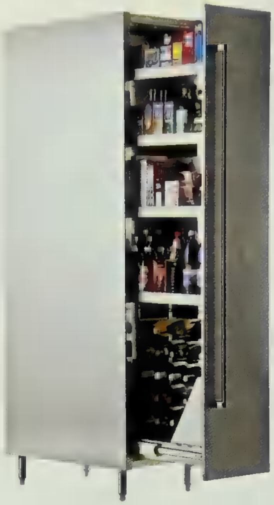
Introducing Gold Guard. A barrier against moisture, not design.

Despite misconceptions, EIFS provides a better moisture barrier than other claddings. Now we've taken it even further. Introducing Sto Gold Guard — a moisture protection system that resists water penetration more than 5 times longer than leading brand house wraps and 28 times longer than conventional building paper. Gold Guard has two easily-applied steps (all you need is a trowel and a roller). And when combined with EIFS, you get seamless moisture protection for years. Now you can create memorable, lasting designs with EIFS without having to watch your...um...back. Start today by visiting our Web site at **www.stocorp.com** or calling **1-800-221-2397**.

sto

100% Acrylic Polymers

CIRCLE 83 ON INQUIRY CARD



► Simple storage

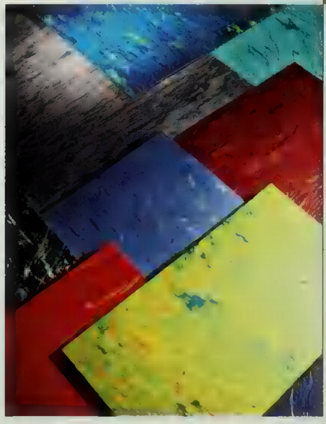
Kanso, a Japanese word meaning simple, is the title of a collection by Yves-Claude Arbour. The Kanso pullout pantry is a mobile, multipurpose pantry with a sliding shelved interior. The unit can be used in the kitchen as a cupboard, storage unit, or utility closet. Custom outfitting for entertainment or for the office is also available. 212/625-9612. Yves-Claude Design, New York City. CIRCLE 233

▼ Protective guard

Many products are available to protect walls from damage, but most are heavy and difficult to install. The 1600I Wall Guard is strong enough to resist impact of more than 88 pounds, yet light enough to ship and install easily. The wall guard can be used in numerous buildings where damage occurs frequently, such as hotels, schools, hospitals, airports, and restaurants. 800/222-5556. InPro Corporation, Muskego, Wis. CIRCLE 234

▼ Marbleized rubber

With the Prima marbleized rubber flooring system (shown below), customers can choose from one of 16 base colors, along with three colors that will be used as veining in each tile. Other offerings from Johnsonite include wheeled-traffic transitional moldings, Sport-Ability sports and multifunctional flooring, and ComforTech Anthem cushioned flooring. 800/899-8916. Johnsonite, Chagrin Falls, Ohio. CIRCLE 235



▲ Metal grid system

A new family of ceiling systems and suspension products is on its way from Celotex. The system will be manufactured in imperial as well as metric measurements, with a variety of configuration options. The grid system also comes with three T connection options: stab, hook, and quick release, as well as a tight connection tolerance. 800/CELOTEX. Celotex, Tampa. CIRCLE 236

Our Numbers Don't Lie...
PEMKO has PASSED
POSITIVE PRESSUR
in test
after test
after test
after test
after test
after test
after test

the intumescent inside
Fire Tested
Listed to meet the requirements of standards UL 10B, [illegible] & UBC 7-2 [illegible] 1 (Positive Pressure)

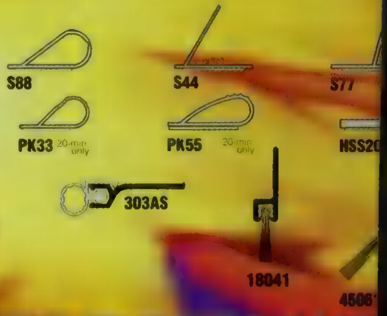
the smoke gasketing solution
Tested For Smoke-Controlled Assemblies
[illegible] & Listed to meet the requirements of [illegible] UL 1784, NFPA 105 & UBC 7-2 Part 2

*In research and development since 1992
*Conducted dozens of fire tests with UL & ITS (Warnock Hersey)
*Over 200 door assembly listings for compliance to UBC 7-2 part one (fire test w/hose stream) and part two (test for smoke-control assemblies)
*Over 25 door and frame manufacturers have adopted PEMKO listings into their specifications

P.O. Box 3780, Ventura, CA 93006
Ph: (805) 642-2600 or (800) 283-9988
Fax: (805) 642-4100 or (800) 283-4050

P.O. Box 18966, Memphis, TN 38181-0966
Ph: (901) 365-2160 or (800) 824-3018
Fax: (901) 365-1354 or (800) 243-3656

PEMKO
Visit our newly updated webs
www.pemko.co
CIRCLE 84 ON INQUIRY CAR



COOL AND CLEAR.

V-KOOL® Finally a clear window coating that blocks up to 60% of total heat.

Until recently, there were just two ways to protect interiors from solar heat gain. You could either block the heat with a reflective window coating, or you could try a less effective tint.

Now, there's a better alternative—V-KOOL (formerly known as Solis). V-KOOL uses a patented, high tech process to embed tiny particles of exotic metals in optically clear and durable polyester film. When applied to your windows, this high tech product screens out an amazing 90% of the infrared rays responsible for heat build-up while letting in over 70% of visible light. That is almost as much heat reduction as heavy silver window films and significantly more than conventional tints. And unlike those products, V-KOOL is virtually transparent, so you are never forced to sacrifice appearance, light or clarity. By comparison heavy silver window films allow just 15 to 20% of the light to enter.

Solis®

V-KOOL also blocks 99% of harmful ultraviolet rays that can damage skin and eyes and cause materials to fade. It is ideal for new construction, or it can be retrofitted right over existing glass for dramatically improved heat protection.

> *V-KOOL has been chosen one of the top 100 inventions of the past millennium by* Popular Science *magazine.*

V-KOOL. So cool, so clear. For more information about how it can reduce solar heat while giving you a clear glass appearance, call 1-800-SUN-2-HOT.

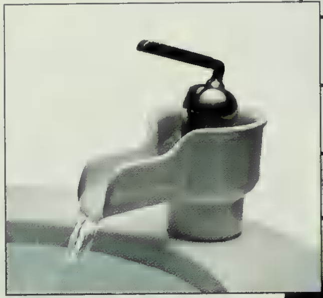
V-KOOL®

The Clear Sun Barrier for Your Building

CIRCLE 85 ON INQUIRY CARD

▼ New bathroom toys

Kohler presents new products for 2000, including new faucets and console tables. Inspired by an antique apothecary mortar and pestle, the Bol Faucet works as water fills the upper ceramic bowl and slowly pours out the spout into the basin. The faucet is made of durable vitreous china and complements a wide range of Kohler fixtures. The cast-iron Cattails console table is another item in the collection. A pattern of cattails and waves adorns the apron of the table and creates the look of a vintage iron gate. Also featured in the collection are sinks, shower screens, baths, and toilets. 800/4-KOHLER. Kohler Company, Kohler, Wis. **CIRCLE 237**

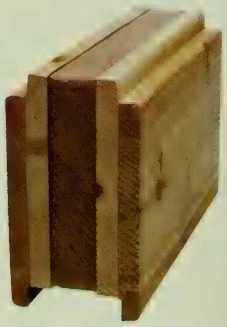


▼ Wings, with or without arms

The new line of chairs from Segis uses molded plywood for the seat and back panels. The chair frame is made of chromed or powder-coated steel tube. Three main styles of chairs are available, each with different colors and options. The wing chair is stackable and available with beech wood or cherry wood veneer as well as a matte lacquer finish in dark blue, tangerine, apple green, white, and black. The chair is available with or without armrests. 954/960-1100. Segis, Pompano Beach, Fla. **CIRCLE 238**

► Foam fillings

International Homes of Cedar has developed an energy-guard wall system, Thermo-Lam, which helps maintain a constant indoor temperature, no matter what the weather is like outside. The system uses patented interlocking, laminated timbers with an added foam core. The thickness of a solid wall of Thermo-Lam also reduces outside noise. 800/767-7674. International Homes of Cedar, Woodinville, Wash. **CIRCLE 239**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

A CONFERENCE & EXHIBITION with an International Perspective

AIA

Innovative Alternatives in Learning Environments

GLOBAL CHANGES are reshaping education in countries around the world.

At this conference you will learn how architects and educators from around the world are responding to these changes. Visit the Netherlands and see how the Dutch are leading development of new learning settings. Learn about innovative alternatives in both education and its supportive architecture. This three-and-one-half-day conference also offers tours of inventive Dutch learning environments and architecture.

CONFERENCE AGENDA: www.e-architect.com/pia/cae or call the PIA information line, 800-242-3837. For registration information contact The Balcom Group at 888-273-8017.

November 7–10, 2000

AMSTERDAM THE NETHERLANDS

SPONSORED BY: The AIA Committee on Architecture for Education, National Clearinghouse for Educational Facilities, Hogeschool van Amsterdam, Horizon College, and STARO

IN CONJUNCTION WITH: The OECD Programme on Educational Building, the Council of Educational Facility Planners International, and Urban Educational Facilities

National Building Museum

elebrate the art and craft of building, in the National Building Museum.

e National Building Museum, a private, nonprofit ıcational institution, was created by Congress in 30 to celebrate American achievements in architure, construction, engineering, urban planning, d design. We invite yout to join us! Members eive discounts on all education programs, subiptions to the Museum's quarterly journal and the endar of events, invitations to exhibition opens, and discounts on Museum Shop purchases. For re information, please call the Membership Office 02 272-2448, or visit us online at **www.nbm.org**

Yes! I want to become a member of the National Building Museum.

ıse begin my membership at the following level:

_Individual	$35
_Senior/Student	$25
_Family/Dual	$55

become a member or to receive more information, ıse fill out the form below:

ıe

ress

/state/zip

time phone and e-mail address

My check payable to the National Building Museum s enclosed.

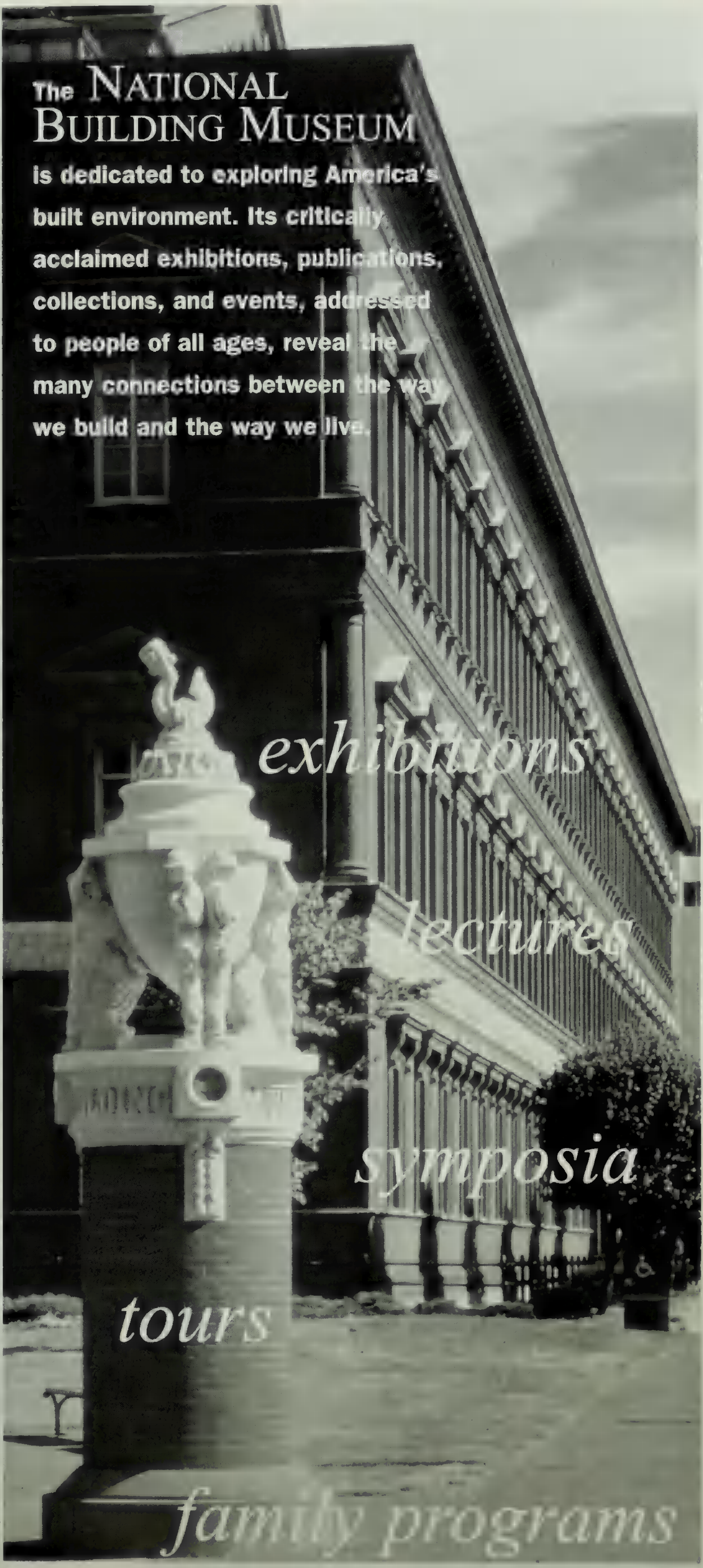
rge my___VISA ___MasterCard ___American Express

ount number and expiration date

time phone and email address

ATIONAL
UILDING
USEUM

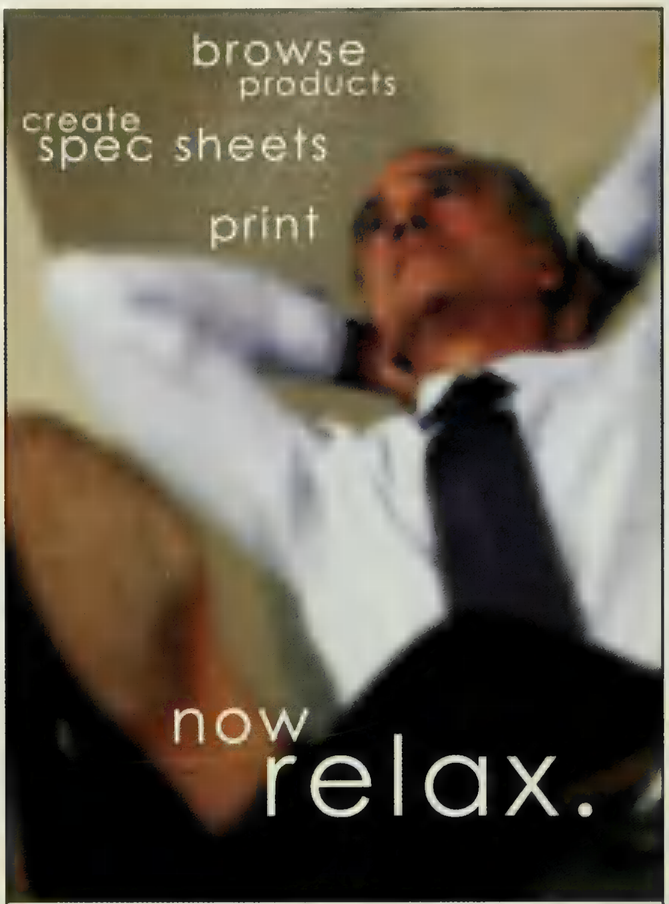
National Building Museum
401 F Street NW
Washington, DC 20001
202 272-2448 phone
202 272-2564 fax
www.nbm.org



The NATIONAL BUILDING MUSEUM

is dedicated to exploring America's built environment. Its critically acclaimed exhibitions, publications, collections, and events, addressed to people of all ages, reveal the many connections between the way we build and the way we live.

Photo by Maxwell MacKenzie



Say goodbye to cutting and pasting your spec sheets.

At LightingUniverse.com, we've worked hard so you won't have to. Our *Project Management* tools help you streamline the way you do business. With the *Catalog Wizard*, you can create a customizable lighting project, specify areas and applications, and add products. Next, print or email the entire spec book, complete with a table of contents and cover page, to your clients for their approval. That means no more searching through out-of-date catalogs or cutting and pasting, which saves you times and money. Best of all, it's free to use. So log on at *LightingUniverse.com*, and relax.

Lighting Universe.com

"The Professional's Lighting Store"

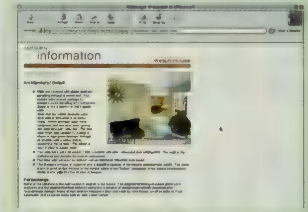
888.404.2744 / www.LightingUniverse.com / **Sales Rep Territories**

CIRCLE 87 ON INQUIRY CARD

Product Literature

NEW SITES FOR CYBERSURFING

Take a virtual tour of the all-laminate Wilson House **www.wilsonart.com**



Paint spec tool from Devoe Paint and Fuller O'Brien **www.paintspec.com**

Online auction service for lighting industry **www.LightingBuyer.com**

Information source for residential window and door systems made with KeepSafe glass **www.keepsafe.com**

Color selection aid

The KohlerWindows kit is a hands-on interactive tool designed to help consumers incorporate color into the kitchen and bath. The kit consists of a series of 16 templates or window frames that create a natural color environment with photographs of architecture, wallpapers, textures, fabrics, and other design elements. 920/457-4441, ext. 74507. Kohler Co., Kohler, Wis. **CIRCLE 240**

Specialty wall brochure

Marlite has published a 12-page brochure for the commercial building industry detailing the company's specialty wall and related interior building products. 330/343-6621. Marlite, Dover, Ohio. **CIRCLE 241**

Lighting handbook

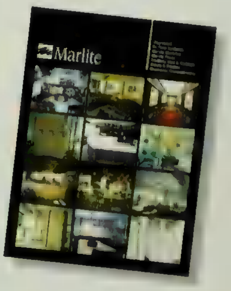
Lightolier has issued "Red Book", the latest version of the Lightolier *Comprehensive Lighting Handbook*, a presentation of the company's family of interior lighting fixtures. 800/215-1068. Lightolier, Fall River, Mass. **CIRCLE 242**

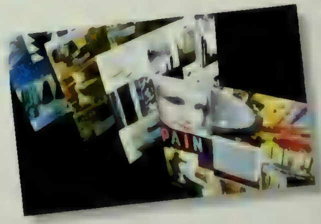
Flooring options

Two new brochures for Bonar Floors' flagship product lines are available. *Flooring Collection* shows the entire collection of Flotex flocked flooring patterns and colors, in both rolled goods and tile. *Entrance Flooring Systems* is a complete description of the Coral and Nuway clean-off systems. 800/852-8292. Bonar Floors, Newnan, Ga. **CIRCLE 243**

Ballast slide chart

Lutron has revised and expanded its ballast slide chart, a tool that allows users to select the correct electronic fluorescent dimming ballast and compatible dimming controls. 800/523-9466. Lutron Electronics Co. Coopersburg, Pa. **CIRCLE 244**





For more information, circle item numbers on Reader Service Card or go
www.architecturalrecord.com Advertiser & Product I

Product Literature

Roofing systems brochure

The *Firestone Building Products 2000* Sweet's brochure is a resource for building owners, roofing contractors, architects, and other specifiers of commercial roofing systems. 800/428-4442. Firestone Building Products Company, Carmel, Ind. **CIRCLE 245**

Skylight showcase

A new brochure from Velux-America helps designers and contractors upsell to omeowners by showcasing the benefits f adding skylights and roof windows to heir projects. The brochure contains before and after" photography, as well s information and statistics about the uality, energy-efficiency, and perfor-mance of Velux products. 00/283-2831. Velux-America, reenwood, S.C. **CIRCLE 246**

hird boxed collection

nvision introduces its third boxed collec-ion of patterns and textures designed ith coordinating colorways. Each portfo-o has a large sample of carpet, smaller amples in nine colorways, and a photo to elp define scale. 800/241-2586. Invision arpet Systems, Dalton, Ga. **CIRCLE 247**

Ceiling system overview

A new brochure provides a summary of Chicago Metallic's standard ceiling grid systems, including specialty products such as perimeter curved/straight trim, fiberglass and vinyl-gyp panels, fiberglass reinforced panels, and the new drywall grid system. In addition, the brochure reviews the company's complete line of metal ceilings, which includes linear, open cell, decorator metal pan, and security ceiling systems. 800/323-7164. Chicago Metallic, Chicago. **CIRCLE 248**

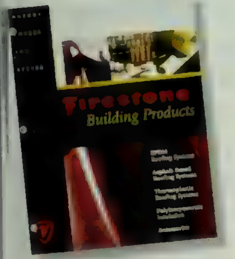
Southern Pine information

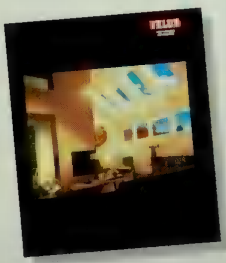
The new Southern Forest Products Association catalog contains over 100 publications organized in sections such as reference manuals, technical literature, pressure-treated Southern Pine literature, case studies, and project plans. Also included is a section on international literature available in seven languages. 504/443-4464. Southern Pine Council, Kenner, La. **CIRCLE 249**

Fiber-optic lighting reference

Fiber-Optic Lighting: A Guide for Specifiers, 2nd ed., is written to serve the needs of professional lighting designers, engineers, facility managers, architects, and interior designers. 770/925-9388. The Fairmont Press, Lilburn, Ga.

CIRCLE 250





r more information, circle item numbers on Reader Service Card or go to ww.architecturalrecord.com Advertiser & Product Info

STAAD.etc™
ARCHITECT
Structural Component Design & Analysis
Base Plates • Columns • Footings • Retaining Walls • Slabs • Much More
- Friendly Wizard-like interface makes component design quick and easy.
- Spreadsheet-type input with dynamic graphics.
- Flexibility to change individual data units, customize rebar and databases.
- Automated step-by-step hand calculations.
Research Engineers
CIRCLE 88 ON INQUIRY CARD
Timber, Masonry, Steel & Concrete Structures & Accessories
USA • UK • Germany • France • Canada • Japan • China
$1,49
(save the pric
your next proje
An ISO 9001 Certified Com
FRE
CD DEM
800-FOR-RE
reiworld.c
info@rei
Architec
Friendly
Indian Codes Also Availabl

Dates & Events

Calendar

Chicago Architects
Chicago
June 3–March 2001
Selected architectural drawings on display from the permanent collection linked with the Art Institute's oral histories of 50 Chicago designers, including Mies van der Rohe, Harry Weese, and Myron Goldsmith. The Art Institute of Chicago. 312/443-3600.

Exhibition and Lecture Series: Young Architects Forum 2000
New York City
Through July 12
A lecture series and exhibition by winners of the competition, a public forum for discussion of their work and ideas. The Urban Center. 212/753-1722.

"Second Nature": Young Architects Forum
New York City
Through July 12
The Architectural League reveals six winners in its 18th annual competition for young architects and designers. This is an exhibition of work and a lecture by the winners. The Urban Center. 212/753-1722.

Oswald Häerdtl: Architect and Designer 1899-1959
Vienna
Through July 14
This exhibit of Häerdtl's Austrian career, spans from early Modernism through World War II and into the 1950s. Architecture Centre Vienna (Architektur Zentrum Wien). 43-1/522-3115.

Experiments: Recent Accessions in Architecture and Design (A/G/D)
San Francisco
July 15–October 17
This exhibition presents approximately 150 pieces of furniture, design objects, and graphic design whose form, material, or content extends the experiments of contemporary art to the objects and images of daily life. San Francisco Museum of Art. 415/357-4177.

Bilbao: The Transformation of a City
Chicago
Through July 16
Models, plans, photographs, and drawings illuminate a dozen architectural projects—Frank Gehry's Guggenheim, Santiago Calatrava's observation tower/airport—that have energized the ancient city in northern Spain. The Art Institute of Chicago. 312/443-3600.

E-Construction & Contracting
Chicago
August 1–2
The conference will highlight tools and techniques needed to succeed in the new e-Construction marketplace. Leading construction, hardware, software, design, and supply firms will be presenting on practice studies and initiatives. 312/980-3410. www.iqpc.com/e-construct

Planning Successful Schools
Madison, Wis.
August 2–4
This seminar will address educa-

ARCHITECTURE
Entry deadline: August 4, 2000
Submission deadline: September 1, 2000

INTERIOR ARCHITECTURE
Entry deadline: August 18, 2000
Submission deadline: September 15, 2000

REGIONAL & URBAN DESIGN
Entry deadline: September 8, 2000
Submission deadline: October 6, 2000

TWENTY-FIVE YEAR AWARD
Submission deadline: September 1, 2000

Call 202.626.7586 for detailed entry information, or go to www.aiaonline.com.

CELEBRATING THE BEST IN CONTEMPORARY ARCHITECTURE

the architecture
twenty five interiors
year award urban design

The Smith House: Architect-Richard Meier & Partners; Owner-Carole Littlefield; Photographer-Ezra Stoller and Scott Frances/Esto

AIA

tional restructuring, community involvement in schools, school security, design-effective facilities, and project-delivery methods. University of Wisconsin-Madison. 800/462-0876.

National Design Triennial: Design Culture Now
New York City
Through August 6
The museum looks at architecture and the built environment, product esign, graphic design, and new edia across the country to discover he impulses, issues, and ideas that re driving design practice in America. ooper-Hewitt National Design useum. 212/849-8400.

he Corner Store
ashington, D.C.
hrough August 6
xamine the familiar yet overooked building form, drawing on xamples from across the country, ith an emphasis on Galveston, ex. National Building Museum. 02/272-2448.

Architecture in the Year Zero
Jyväskylä, Finland
August 11–13
Emphasis will be on Alvar Aalto's works in Seinäjoki, Noormarkku, Paimio, and Turku. Alvar Aalto Museum. +358/14-624811.

James Welling: Photographs 1974–1999
Columbus, Ohio
Through August 13
Prominent in this expo of 129 images by Welling are prints from the artist's small-scale *L.A. Architecture* series and detail photographs of massive buildings by H. H. Richardson. Wexner Center for the Arts, The Ohio State University. 614/292-0330.

Gwathmey Siegel & Associates Exhibition
New York City
Through August 14
A display of 14 institutional projects, with a 50-foot wall that features a survey of the firm's entire practice. The Graduate Center, The City University of New York. 212/947-1240 x117.

Frank Lloyd Wright: Windows of the Darwin D. Martin House
Washington, D.C.
Through August 20
An exhibition of some 70 art-glass windows, doors, and skylights (both originals and reproductions) created by Wright. National Building Museum. 202/272-2448.

Skyscrapers: The New Millennium
Chicago
August 19–January 15
Architectural models and drawings show some 50 high-rises currently under construction or recently completed. The Art Institute of Chicago. 312/443-3600.

Kahn's Modern Monuments
New York City
Through August 22
Drawings and models explore the mid-century architect Louis I. Kahn's favored themes: abstracted ancient monumentalism and massive layered enclosure. The Museum of Modern Art. 212/708-9400.

Modern Living 1
New York City
Through August 22
Design objects, architectural drawings, and models explore the clarity, efficiency, and hygiene advocated by designers Gerrit Reitveld, Eileen Gray, and others who inspired the course for Modernism. The Museum of Modern Art. 212/708-9400.

Before and after the End of Time: Architecture and the Year 1000
Cambridge, Mass.
August 26-December 31
This exhibition looks at the beginning of Romanesque architecture in Western Europe shortly after the year 1000 A.D. Fogg Art Museum, Harvard University. 617/495-9400

MEETS CODE REQUIREMENTS
APPROVED

With BOCA International's Plan Review Service, you can be sure your project meets code requirements. You get a technical service staff of code experts with extensive knowledge of *ICC International Codes* and *BOCA National Codes*. BOCA's Plan Review Service provides:

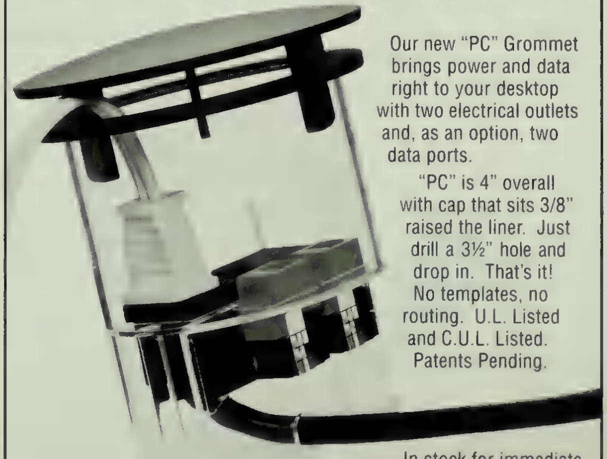
- Accurate Plan Reviews supervised by licensed engineers and architects
- Cost-effective technical assistance
- Timely identification of potential code violations
- FREE follow-up consultations

For more information or to request a BOCA Plan Review
1-800-214-4321, ext. 715
www.bocai.org

BOCA BUILDING OFFICIALS CODE ADMINISTRATORS INTERNATIONAL®

CIRCLE 89 ON INQUIRY CARD

110 VOLT GROMMET!



Our new "PC" Grommet brings power and data right to your desktop with two electrical outlets and, as an option, two data ports.

"PC" is 4" overall with cap that sits 3/8" raised the liner. Just drill a 3½" hole and drop in. That's it! No templates, no routing. U.L. Listed and C.U.L. Listed. Patents Pending.

In stock for immediate shipping in Black, Walnut Brown and Light Grey, custom colors available.

See dozens of other wire access grommets and wire management systems in our new 1998 color catalog.

DOUG MOCKETT & COMPANY, Inc.
"Fine Architectural Hardware for Your Fine Furniture"
Box 3333 Manhattan Beach, CA 90266 USA
(800) 523-1269 FAX (800) 235-7743
www.mockett.com

CIRCLE 90 ON INQUIRY CARD

SPEAKMAN
www.speakmancompany.com
1.800.537.2107

CIRCLE 90 ON INQUIRY CARD

Dates & Events

Smart Growth and Choices for Change
New York City
Through September 6
A new exhibition presenting 12 case studies organized around the themes of "reinvigorating urban cities" and "repairing urban fabric." National Building Museum. 202/272-2448.

Design Diplomacy: Public Policy and the Practice of Architecture
Copenhagen
September 6–9
A panel of architects offers an indepth look at how architects can shape sound public policy as community leaders. Cosponsored by the McGraw-Hill Construction Information Group; a division of the McGraw-Hill Companies, New York. 888/273-8017.

Restoration & Renovation
San Antonio
September 7–9
Trade show and conference dedicated to architectural rehabilitation, cultural landscape preservation, and historically inspired construction. Architects earn Quality Level 2 Credits including Health, Safety, & Welfare. 800/982-6247

Promosedia—24th International Chair Exhibition
Udine, Italy
September 9–12
This is the only exhibition in the world dedicated wholly to seating. It is a meeting place for designers and the specialized trade as well as a source of cultural, industrial, and artistic renewal focused on this basic item of furnishing. +39/0432-745611

Aging and Health Symposium
Cambridge, Massachusetts
September 14–15
Among the issues to be discussed is the role of buildings in healthy aging: barrier-free housing, elderly housing opportunities and challenges, design issues of safety, comfort and air quality. Harvard School of Public Health. 617/432-3483

Public Jurying and Reception to End International Architectural Design Contest
Rancho Palos Verdes, Calif.
Through September 17
This event was designed to garner ideas for the renovation and expansion of the Art Center facilities. Seven jurors—Todd Bennitt, Philippa Blair, Phillip Max Cheshire, Mark Mack, Scott Ward, Michael Webb, and Eric Lloyd Wright—will vote and comment on their final selections. The Art Center. 310/541-2479.

The White House in Miniature
Washington, D.C.
Through September 17
This exhibit explores how the President's house has been redecorated, renovated, and rebuilt in response to 200 years of changing tastes in interior design. National Building Museum. 202/272-2448.

At the End of the Century: 100 Years of Architecture
Los Angeles
Through September 24
In 21 parts, this massive international exhibition organized by MOCA surveys countless architectural photographs, scale models, drawings, furnishings, clips, and artifacts. The Museum of Contemporary Art at the Geffen Contemporary. 213/621-2766.

Modern Living 2
New York City
Through September 26
After WWII, figures such as Eames, Nelson, Saarinen, and Aalto adapted industrial technology for the manufacture of rational, functional, and affordable domestic objects on display. The Museum of Modern Art.
212/708-9400.

Lynn/Rashid: Architectural Laboratories with Columbia University and UCLA
New York City
Through October 29
With the help of students, Lynn and Rashid will transform the U.S. Pavilion into a research lab designed to investigate, produce, and present a broad scope of new architectural schemes. U.S. Pavilion. 212/423-3840.

Lyons "City of Fiction" 7th International Exhibition of Architecture
Venice
Through October 29
The installation explores the architectural firm's current thinking about architectural practice—in particular, an increasing tendency for architecture to embody an image, as opposed to being purely abstract or functional in design. Australian Pavilion. +61/3-9754-4868.

HIGH-SPEED INTERNET ACCESS
connect to the Internet from your laptop—absolutely free. Access also is available in all of our meeting rooms.

BUSINESS CENTER
use our fax, copier and printer, whether it's 3:00 p.m. or 3:00 a.m. Free.

PORTABLE PHONES
call important people anytime from anywhere in the hotel on phones available from the front desk. Always free.

CONTINENTAL BREAKFAST
go ahead—enjoy a cup of piping hot coffee and a fresh muffin. Free every morning.

FITNESS CENTER
work out the stress of the workday and unwind in our comforting whirlpool. Free whenever you are.

U1
the future is here with Wingate Inns' new frequent traveler program.

MEETING ROOMS
debate, decide, discover and delegate in our spacious workspaces. State-of-the-art technology includes high-speed Internet access.

workout
call
fax
meet
high-speed
expedite
eat
earn

help yourself

WINGATE INN®
BUILT FOR BUSINESS®
1.800.228.1000
www.wingateinns.com

Act before the 10/1/00 deadline

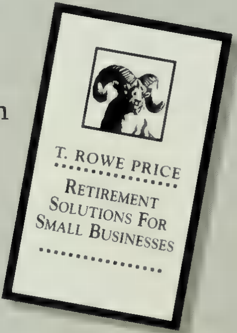
Small-Business Owners...

Is the SIMPLE IRA Plan right for you?

T. Rowe Price can help you find out. If you're a small-business owner and want to start a retirement plan for you and your employees, you should consider this option.

Retirement plans for small-business owners

Our free guide will help you compare your retirement plan options. You can choose the one that's best for you and your business.



The SIMPLE IRA retirement plan is like a 401(k) in that both you and your employees contribute to the plan. The difference is that the SIMPLE IRA is much easier to set up and less expensive to maintain. Plus, your contributions to the plan are generally tax-deductible as a business expense, and there are no IRS filings required.

Act before the October 1 deadline. Call T. Rowe Price today. We'll send you our free Retirement Solutions guide, along with our SIMPLE IRA kit. Remember, you only have until October 1 to set up your plan for 2000.

For your free kit, call our retirement representatives today

1-800-831-1458

www.troweprice.com

Invest With Confidence®

T. Rowe Price

T. Rowe Price Investment Services, Inc., Distributor. SIMPI055074

CIRCLE 92 ON INQUIRY CARD

Dates & Events

Competitions

Ar+d Award

Deadline for receipt of entries: September 12

This award is for completed work by architects under the age of 45 and aims to recognize new talent worldwide. Submissions are encouraged in respect of all building types, interiors, manufactured products, urban design, landscape, bridges, and temporary structures. There will be a first prize of £5000. Go to www.arplus.com for more information.

New School of Business Design Competition

First-stage entry deadline: August 31

The University of South Dakota is sponsoring a two-stage design competition for a new School of Business. Open to registered architects with experience in design and project management at the scale required. The first stage of competition (portfolios/credentials) will be reviewed by a professional jury and selected entrants will be invited to enter the second-stage. The selected entrants will submit their requisite proposals for final review by a state building committee and will receive a cash award for their work and travel expenses. The winning entrant will be awarded the commission. Info: 605/677-6101. or www.usd.edu/finadmin/competition/index.htm

Before + After: The Intentions and Processes of Transformation

Deadline for receipt of entries: October 16

A juried exhibition will present a critical inquiry into architectural interventions and the trends effecting change in the built environment. Two images and supporting process documentation will compare the state of an original condition and the effect of a practical and transformative intervention. $15 entry fee. For submission requirements: 303/443-1945.

Please submit information for the calendar to ingrid_whitehead@mcgraw-hill.com.

ARCHITECTURAL RECORD: (ISSN 0003-858X) July 2000. Vol. 188, No. Title ® reg. in U.S. Patent Office, copyright © 2000 by The McGraw-Hi Companies. All rights reserved. Published monthly by The McGraw-Hi Companies, 1221 Avenue of the Americas, New York, N.Y. 10020. Periodica postage paid at New York, N.Y. RCSC and additional mailing offices. Canad Post International Publications Mail Product Sales Agreement No. 24656 Registered for GST as The McGraw-Hill Companies. GST No. R12307567 **POSTMASTER:** *Please send address changes to* ARCHITECTURAL RECORI Fulfillment Manager, P.O. Box 566, Hightstown, N.J. 08520. **SUBSCRIPTIO** Rates are as follows: U.S. and Possessions $59; Canada and Mexico $79 (pa ment in U.S. currency, GST included); outside North America $199 (a freight delivery). Single copy price $8; for foreign $10. Subscriber Servic 888/867-6395(U.S. only); 609/426-5129 (outside the U.S.); fax: 609/426-708

t's McGraw-Hill Online Learning *Business Week* Standard & Poor's

The **McGraw·Hill** *Companies*
Keeping the world up to speed.®

WHO DEPENDS ON US FOR INFORMATION?

PERHAPS YOU SHOULD ASK WHO DOESN'T?

You could be a CEO or an elementary school student. Or anyone in between. Chances are you rely on The McGraw-Hill Companies for information to help you make the most out of your life.

www.mcgraw-hill.com

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

ANSWERS

Questions appear on page 182. To receive CES credits, fill in the education reporting form below or on our Web site (www.architecturalrecord.com).

1. Dual-layered glass facades are a pairing of glass skins with an air space in between that ranges from a few inches to several feet in width. The glass skins may cover the entire structure or a portion of it, or they may span several structures. The purpose of dual glass layers is to create an air space that works as insulation against temperature extremes as well as noise, while allowing maximum daylight.

2. Undivided facades allow air to flow freely within the space between the inner and outer skins. They are simple and inexpensive to build. This type presents several problems, but most importantly, noise, smoke, fire, and odors can move, unimpeded, from one space into another. Also, warm air accumulates at the top of the air space, while cool air pools at the bottom. Unless there are openings at the top of the facade to vent that hot air, the upper floors of the building will be hot on sunny days.

3. Natural ventilation is best in shaft-type facades. These work by allowing fresh air to enter the building through openings in the outer skin between the shafts. A double-window effect, similar to solar chimneys, allows cooler air to enter at the lower portion of the shaft while warmer exhaust air leaves through the upper part of the window. In other words, the temperature differences induce an upward flow of air in the shaft, improving air movement within the building.

4. Buffer facades use two layers of single glazing that are sealed; fresh air enters the building though separate box windows. Extract-air facades have an insulating glass facade on the exterior and a second single-glazed skin inside. Air is supplied by an HVAC system and natural ventilation is not possible. Warm air exhausted from the building as well as solar gain warm the air in the gap, or corridor, reducing the amount of heat lost through the facade during cold weather and improving comfort. Twin-face facades consist of a curtain wall system with a second skin of single glazing outside made of safety glass or insulating glass. Openings in the skins allow for natural ventilation. The outer skin acts as a windbreak, and permits sunshades in the interstices. It also allows fresh air to enter without blowing papers and other lose materials around the interior.

5. Dual-layered glass facades offer architects ways to enhance comfort and reduce energy demand. They have a higher construction cost, but they provide a much lower operating cost during the life of the building. These facades are ideal for maximizing daylight. Shading devices or daylight-enhancing devices can be mounted in the gap where they are protected from the weather. Twin-face facades offer wind control with natural ventilation and sound control, which satisfies occupants need for privacy, fresh air, and daylight.

AIA/CES EDUCATION REPORTING FORM

(Use to report learning unit hours earned for ARCHITECTURAL RECORD only.)

Member information:

Last Name **First Name** **Middle Initial or Name**

AIA ID Number

Program/project title: Architectural Record (07.00)

☐ "Cladding Buildings in Multiple Glass Skins" [page 171]
☐ "Vinyl By Design" [page 192]
Section sponsored by the Vinyl Institute

Completion date (M/D/Y): _______ / _______ / _______

AIA/CES Credit: Each article or sponsored section will earn you one AIA/CES LU hour of health, safety, and welfare credit.

Fill in: ____ total LU hours.

Material resources used:

Journal article or sponsored section: This article or sponsored section addresses issues concerning the health, safety, or welfare of the public.

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

Signature **Date**

Send completed form to University of Oklahoma, Continuing Education, AIA/CES, Room B-4, 1700 Asp Avenue, Norman, OK 73072-6400; fax 405/325-6965. To respond by E-mail, visit www.architecturalrecord.com and click on Continuing Education. For more information, call 800/605-8229.

© [illegible] AllBusiness.com, Inc. [illegible] Business.com, the AllBusiness [illegible]
AllBusiness.com Inc. Use [illegible] Alan Greenspan's name and likeness [illegible]

AllBusiness.com. We're very, very dedicated to business.

Especially small business. In fact, everything on our Web site is tailored to help you start, manage, or grow your business. By making it easier for you to write a business plan, screen employees, generate sales leads, and all kinds of other things. So while our passion for business may seem a little extreme, it also makes for a pretty impressive Web site.

AllBusiness.com℠
Champions of Small Business

continued from page 89

formal terms? Many of those buildings were done for very low cost. I had to rely on several factors. One is a material factor and the other could be [called] an idea factor. The material factor was that I had to use very bold and simple materials, for example, steel; for example, concrete. And [sometimes] a little bit glass, sometimes a little bit stone.

So always what I did was exposed. . . . I could never imagine making a pillar in steel and cladding it in something else, in stone, because it was unaffordable. Material resources and economical resources. You have to work very hard with and insist very much on the formal quality of the objects that you are producing. And also the constructive efficiency.

"SO YOU INVENT THINGS, LIKE RHYTHM: YOU CREATE A BRIDGE, THEN YOU REPEAT IT."

So you invent things, like rhythm: I repeated the same pillar, as we have done in Lyon many times. You create a bridge, you know, and then you repeat it. And so I am [bringing] a certain daringness [to the designs] . . . trying to do spans that are unusual, because the other resource that is also nonmaterial is the human resource.

I want very much to stress that we have been confronted with buildings that had to be built in very low cost profiles.

AR: *And yet you now have projects—high-profile projects—throughout the world, including a high-visibility project in the United States. Can you tell us about the new museum in Milwaukee?*

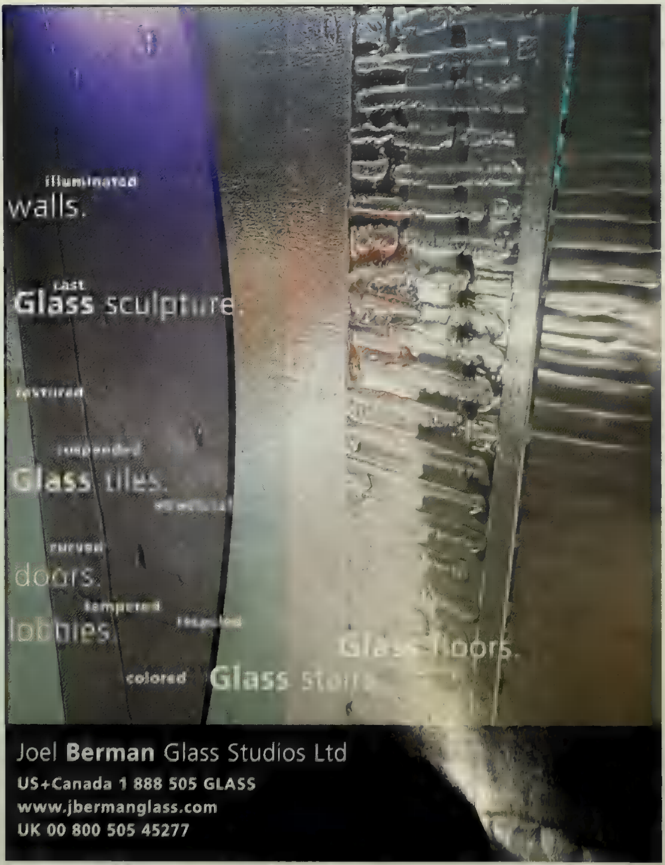
SC: [After describing his approach to siting and to the overall organization, Calatrava then speaks about technology.]

I was also extremely surprised to see how much support I got from the technical point of view. I have today the conviction that the real country of high-tech is the United States because high-tech is part of everyday life. I am thinking of NASA or the beautiful airplanes or things like that; high-tech is very much understood. We decided to do a brise-soleil in carbon fiber, according to proposal from the local engineer, which is, I think, one of the most revolutionary achievements in the building from the material point of view.

Not only are we building a very daring construction, but we are also overcoming technical problems. You know that I am accustomed to solve [problems] with steel or aluminum—not using such a beautiful material as carbon fiber, a modern material.

I tried very much to influence the building with a certain sensibility for the culture of the lake, for the boats, the sails, the sea boats, the always-changing landscape, because the lake has a very changing physiognomy. In hours it can metamorphose. You go from a blue sky into very, very dramatic gray-silver light. You really feel you are in the presence almost of an interior ocean. So I would very much like the building to respond to those things. ■

For several hours, Calatrava opened his thoughts about technology, cosmology, his favorite artists, and the architects who have influenced his work. In addition, he talked explicitly about work under way, including much more extensive commentary on the Milwaukee Art Museum. For the complete text of this extraordinary interview, please visit our Web site at www.architecturalrecord.com.



Joel **Berman** Glass Studios Ltd
US+Canada 1 888 505 GLASS
www.jbermanglass.com
UK 00 800 505 45277

CIRCLE 94 ON INQUIRY CARD

MUSSON

Grit Surface Aluminum Treads

Can be installed on almost any surface. Perfect for public heavy traffic stairs, outdoors or in. Protect new steps or renovate old worn ones. Hard aluminum oxide abrasives combined with polymeric binders are bonded to a heat treated high strength aluminum square nose tread. 8 grit surface insert colors - same or in combination.

Insert shows texture of anti-slip surface

For free brochure and samples, contact

MUSSON RUBBER CO.
P.O. Box 7038 • Akron, OH 44306 • Fax (330) 773-3254
800-321-2381 • E-mail info@mussonrubber.com • www.mussonrubber.com

CIRCLE 95 ON INQUIRY CARD

You can help students everywhere and help your business at the same time. How? By asking potential employees for their high school records.

84% of high school students say they'd work harder if they knew that employers would look at their transcripts.* Thousands of businesses are already requesting records.

When you ask, you'll be sending a powerful message to students: "How you do in school can help determine what kind of job you'll get, how much you'll earn, even how far you'll go."

What does your business gain? Better students make better entry level workers; they have lower failure rates and require less skills training. You can learn a lot about a student from a school record: grades, courses taken, attendance, and extracurricular activities.

So start now by logging on to **www.makeacademicscount.org** for information on making academics count.

Make asking for student records business as usual.

National Alliance of Business
American Federation of Teachers
National Association of Secondary School Principals
Achieve, Inc.
The Business Roundtable
National School Boards Association
American Association of School Administrators
U.S. Department of Education
Business Coalition for Education Reform
National Education Association
U.S. Chamber of Commerce
National Governors' Association

Ad Council

Education
Excellence
Partnership

MAKING
ACADEMICS
COUNT

*Source: Public Agenda (1999)

ADVERTISERS INDEX

Bold: *indicates page number.*
Italic: indicates Reader Service Number.

PAGE NUMBER	READER SERVICE NUMBER	
44	*24*	A/D Fire Protection Systems Inc
250		AIA Call for Entries
246		AIA Conference
261		AIA Online
257		ALLBusiness.com
26	*13*	Alusuisse Composites Inc
200	*68*	Andersen Commercial Group
215	*70*	Ann Sacks Tile & Stone
46		Architecturalrecord.com
2cov-1	*1*	Armstrong (Optima Vector™)
16	*8*	Armstrong (Arch Specialties Grp)
29		Autodesk (iDesign)
42		Autodesk (piracy)
98	*47*	Autodessys
35	*17*	Avonite
102	*48*	Belden Brick Company, The
33	*15*	Bentley Systems Inc
34	*16*	Bergerson
58		Bidcom Inc
251	*89*	BOCA/Bldg Offcls & Code Admins Intl
191	*64*	Bricsnet US
2		Buzzsaw.com
181	*59*	C/S Group (Acrovyn)
183	*60*	C/S Group (Expansion Joints)
236	*78*	Canterbury International
14-15	*7*	Caradco
31	*14*	Ceco Door Products
223	*72*	Celotex (Presidential TL)
12-13	*6*	Celotex (Tuff-R® "C")
80	*40*	CENTRIA Architectural Systems
146	*53*	CENTRIA International
78		Cephren Inc
56	*31*	CNA/Victor O Schinnerer & Co Inc
168	*54*	Construction.com
22-23	*11*	Copper Development Association
68	*37*	Copper Sales Inc
100-101		Dell
251	*90*	Doug Mockett & Company Inc
52	*28*	Dryvit Systems Inc
18-19	*9*	DuPont Antron
21	*10*	DuPont Antron (Atlas Carpet Mills)
90-91	*45*	DuPont Zodiaq
234	*77*	EFCO Corporation
69	*38*	Follansbee Steel
167		Forms + Surfaces (Tecno)
169		Forms + Surfaces (Cabforms®)
217	*71*	Georgia-Pacific
258	*94*	Glass Studios Ltd
50-51	*27*	Glen Raven Mills Inc
184	*61*	Graham Architectural Products
188	*63*	Graphisoft
54	*29*	Hansgrohe Inc
255E	*93*	High Concrete Structures Inc
103	*86*	Ingersoll-Rand (LCN Division)
45	*25*	IWP
187	*62*	Kawneer Company Inc
43	*97*	Kim Lighting
4-5	*2*	Kinko's
232-233	*76*	KitchenAid
4cov	*100*	Kroin Incorporated
38	*20*	LeFevre Studio
248	*87*	LightingUniverse.com
259		Making Academics Count
6-7	*3*	Marlite
24-25	*12*	Marvin Windows & Doors
255W		McGraw-Hill Companies, The
240B	*82*	Mee Industries Inc
104	*50*	Meridian Project Systems Inc
3cov	*49*	Metal Construction Association
84	*42*	Mitsubishi Chemical America Inc
40	*22*	Mortar Net
258	*95*	Musson Rubber Co
197	*66*	Nathan Allan Glass Studios Inc
247		National Building Museum
230	*75*	National Gypsum Company
47	*96*	NECA/IBEW NLMCC
88	*44*	Nemetschek North America
240A	*81*	Northwest Energy Efficiency Alliance
86	*43*	Pacific Lumber Company, The
37	*19*	Pella Windows & Doors
244	*84*	Pemko
179	*58*	Pilkington Libbey-Owens-Ford
237	*79*	Pittsburgh Corning
10-11	*5*	PPG
249	*88*	Research Engineers
61	*33*	Revit Technology Corporation
229	*74*	ROHL
36	*18*	ROMTEC Inc
203	*69*	Sherwin-Williams
39	*21*	Sloan Valve Company
145	*52*	SMI/Spider Manufacturing Inc
252	*91*	Speakman
55	*30*	SPI Lighting Inc
243	*83*	Sto Corp
262-263	*98*	Sweet's, Div of The McGraw-Hill Cos
254	*92*	T Rowe Price
175	*56*	Technical Glass Products
65	*35*	Timely
41	*23*	Traco Skytech Systems
198-199	*67*	Trex
96	*46*	USG Corporation
245	*85*	V-KOOL
227	*73*	Vetter
192-196	*65*	Vinyl Institute, The
60	*32*	Viracon
62	*34*	Vistawall Architectural Products
170	*55*	Visteon
66-67	*36*	VT Industries
48-49	*26*	Vulcraft, A Division of Nucor Corp
177	*57*	W&W Glass Systems Inc
144	*51*	Wausau Tile
239	*80*	Wausau Window and Wall Systems
8-9	*4*	Weather Shield Windows & Doors
144A-B	*102*	Wilsonart International
253		Wingate Inn
82	*41*	Wiremold

For additional information on these advertisers, circle corresponding number on Reader Service Card, or visit our web site at www.architecturalrecord.com and click on Advertiser Information.

Executive Offices

The McGraw-Hill Companies
Two Penn Plaza
New York, NY 10121-2298

VICE PRESIDENT / PUBLISHER
Elaine Shusterman
(212) 904-3475 Fax: (212) 904-4652
shusterman@mcgraw-hill.com

ADVERTISING DIRECTOR
David Johnson
(212) 904-6217 Fax: (212) 904-4652
dave_johnson@mcgraw-hill.com
Assistant: Joan Notaris

PRODUCTION MANAGER
Stephen R. Weiss
(212) 904-2793 Fax: (212) 904-6800
stephen_weiss@mcgraw-hill.com

PROMOTION DIRECTOR
Deborah Smikle-Davis
(212) 904-4558 Fax: (212) 904-6774
deborah_smikle-davis@mcgraw-hill.com

Advertising Sales

NORTHEAST / MID-ATLANTIC
Two Penn Plaza
New York, NY 10121-2298
Ted Rzempoluch
(212) 904-3603 Fax: (212) 904-4256
rzempoluch@mcgraw-hill.com

MIDWEST
One Prudential Plaza
130 East Randolph Street, Suite 400
Chicago, IL 60601-6213
Mike Gilbert (IL, IA, MN, MO, OH, W.PA, WV)
(312) 616-3338 Fax: (312) 616-3276
mike_gilbert@mcgraw-hill.com
Steve Roth (IL, IN, KS, MI, ND, NE, OK, SD, TX, WI)
(312) 616-3339 Fax: (312) 616-3276
stephen_roth@mcgraw-hill.com

SOUTHEAST / MID-ATLANTIC
4170 Ashford-Dunwoody Rd.
Atlanta, GA 30319
David Johnson
(404) 843-4770 Fax: (404) 252-4056
dave_johnson@mcgraw-hill.com
Sales Assistant: Pam Crews

WEST (AZ, CA, CO, NM, NV)
Media Sales Associates
129 Cabrillo Street, Suite 103
Costa Mesa, CA 92627
Bill Hague
(408) 492-9292 Fax: (408) 492-9797
(800) 830-4351 Fax: (253) 858-7576
billh@abptuf.org

WEST (BRIT. COLUMBIA, ID, OR, S. CA, UT, WA)
5901 S.W. Macadam Avenue, Suite 230
Portland, OR 97201
Bill Madden
(503) 224-3799 Fax: (503) 224-3899
billmad@msn.com

CANADA (EXCEPT BRITISH COLUMBIA)
48 Little Rebel Road, RR 3
Schomberg, Ontario L0G 1T0
Frank A. Spangenberg
(905) 939-0653 Fax: (905) 939-0654
spang@sympatico.ca

Manufacturers' Spotlight/Postcard Service

Ally Wingate
(800) 484-4042 ext 3042 Fax: (770) 889-9152
ally_wingate@mcgraw-hill.com

Classified Advertising

Ally Wingate
(800) 484-4042 ext 3042 Fax: (770) 889-9152
ally_wingate@mcgraw-hill.com

Editorial

(212) 904-2594 Fax: (212) 904-4256
www.architecturalrecord.com

Subscriber Service

(888) 867-6395 (USA only)
(609) 426-7046 Fax: (609) 426-7087
p64cs@mcgraw-hill.com

Back Issues

(212) 904-4635
phyllis_moody@mcgraw-hill.com

Reprints

(609) 426-5129 Fax: (609) 426-5472
doreen_bitowf@pubs.mcgraw-hill.com

"This site is terrific. I had advertised in the newspaper, spent a lot of money and got no results. I found a new employee with this service!"

ANDREW ROBINSON, AIA

Hot Jobs Designing Cool Buildings

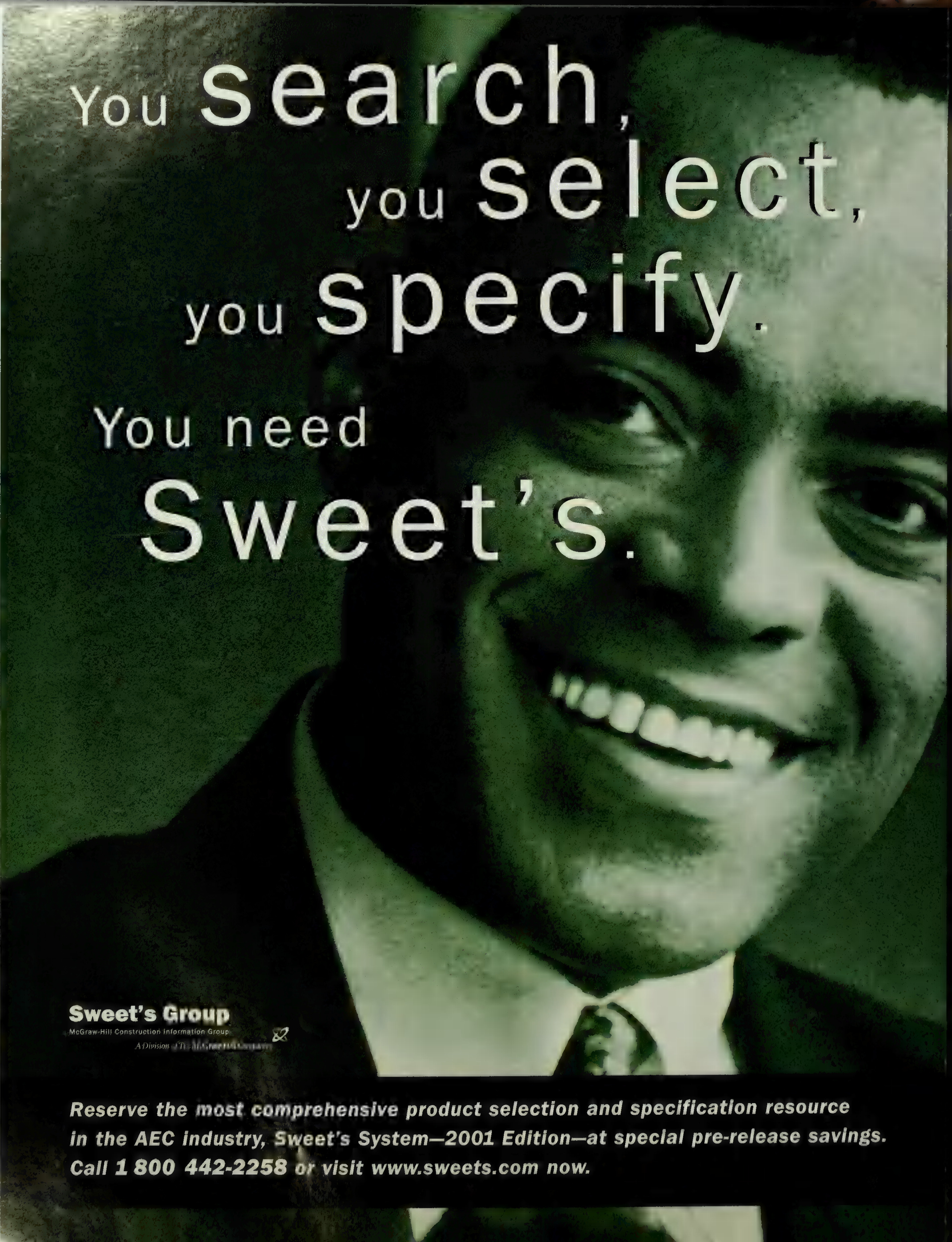
"The e-Architect job board helped me get noticed as a Hi-Tech Architect and Visual Designer. Your service is excellent and I recommend it to anyone who wants to get a great job in the field of architecture."

SCOTT A. LUCAS

w.aiaonline.com

Search Thousands OF EMPLOYMENT OPPORTUNITIES AND RESUMÉS ONLINE.

THE AMERICAN INSTITUTE OF ARCHITECTS



Sweet's Group
McGraw-Hill Construction Information Group
A Division of The McGraw-Hill Companies

Reserve the most comprehensive product selection and specification resource in the AEC industry, Sweet's System—2001 Edition—at special pre-release savings. Call 1 800 442-2258 or visit www.sweets.com now.

The fully-integrated, multi-media *Sweet's System—2001 Edition.*

Find the right product for your project, conveniently and quickly with *Sweet's System—2001 Edition.*

Sweet's is far and away today's leading resource for AEC professionals. In fact, ***97% of all architects use Sweet's as their primary product information source.**** Sweet's provides detailed information, specifications and technical data on more than 25,000 building products from over 1,600 manufacturers.

Sweet's System is more than just the comprehensive bound catalog files. It's a battery of integrated multi-media components, in print, digital and electronic forms, all designed to work as a system to meet the many needs of your design team.

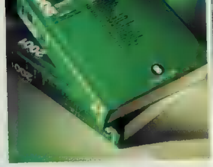
Nothing makes it easier to search, select and specify building products.

Reserve Sweet's now and you'll get the 2001 Edition at a special pre-release discount. Plus you'll also begin receiving all the current 2000 editions of *Sweet's CD* and *Sweet's Product News.* **Call 1 800 442-2258** or visit **www.sweets.com** now to secure your *Sweet's System—2001 Edition. (Please refer to 5JLA1 when you call.)*

When you need product information, the *Sweet's System* is all you need.

**Independent Market Survey: Hase/Schannen 1999.*

CIRCLE 98 ON INQUIRY CARD


Sweet's Catalog Files

Sweet's CD

sweets.com

Sweet's Directory

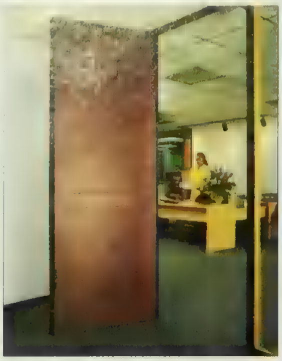
Sweet's Product News

Sweet's BuyLine® Service

Sweet's
Construction's Product Marketplace

MANUFACTURERS' SPOTLIGHT

Applications



The new flush exit device is designed for use on TOTAL DOORS in single, pairs & double egress pairs. Ideal for corridor & elevator lobby applications in all commercial facilities. The exit device allows continuous, uninterrupted sight-lines in corridors when doors are pocketed in the open position. Its quiet operation is ideal anywhere noisy hardware is a problem. TOTAL DOORS can be retrofitted into existing door frames, saving time & expense.

Openings

CIRCLE 150 ON INQUIRY CARD

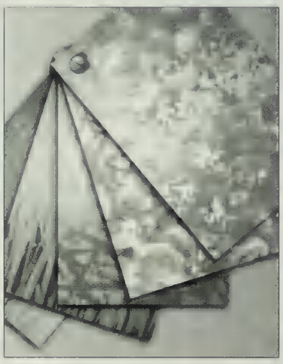
Concrete Waterproofing by Crystallization

Applied as a slurry coating Xypex is a chemical treatment that waterproofs by penetrating the concrete with a crystalline formation that "plugs" the pores of the structure preventing water seepage. Xypex is ideal for use on the "inside" of wet underground structures.

Xypex Chemical Co.

CIRCLE 151 ON INQUIRY CARD

Alpha Collection 2000 Aluminum-Stainless Steel



New and innovative design patterns and textures. Ideal for most vertical surfaces. Border to border standard sizes. Thickness from 0.025" to 0.064". Quantity discounts and free design consulting. Ask us about our custom capability. SD+T Marketing INC., Phone: 305-856-3825 TollFree: 877-626-2595 Fax: 305-856-1287 Email: sales@sdtmarketing.com Web: www.sdtmarketing.com

SD+T Marketing Inc.

CIRCLE 152 ON INQUIRY CARD

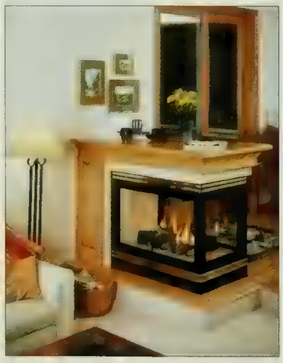
ADA Insulation Safety Covers

Plumberex Specialty Products Inc. is the only company tha manufactures a complete line o ADA safety covers for commer cial & residential applications meeting all building & fire code with a -0- smoke rating. Th Handy-Shield™ Safety Cover i the one and only ADA safet cover on the market with "Dual" fastening system to hel deter theft! For more inform ation call 800-475-8629, Website www.plumberex.com or emai plumberex@earthlink.net

Plumberex Products, Inc

CIRCLE 153 ON INQUIRY CARD

Three-Sided Fireplace for Unlimited Installations

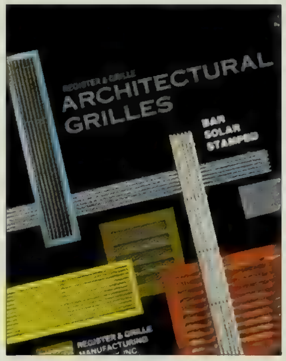


Heat-N-Glo introduces model PIER-TRC, a three-sided direct vent fireplace that can be terminated vertically or horizontally to accommodate nearly any application. The PIER-TRC is perfect as a room divider, bar, end of counter or a wide variety of creative installation possibilities. As with all Heat-N-Glo fireplaces, the PIER-TRC can be operated by remote control for the ultimate in convenience. Call 888-427-3973.

Heat-N-Glo

CIRCLE 154 ON INQUIRY CARD

Decorative Grilles

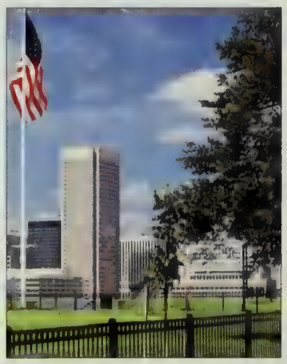


Unusual visual effects emerge when our grilles are designed for area effects. Versatility is the theme. R&G offers architects and interior designers many ways to express the changing forms of metal with the integrity of R&G's architectural grilles. Custom or standard finishes are available plus any grille can be made in matching color to blend with your decor. 202 Norman Ave., Bklyn, NY 11222. 800-521-4895, Fax: 718-349-2611.

Register & Grille Mfg Co.

CIRCLE 155 ON INQUIRY CARD

Ornamental Picket Fence with a Purpose



We have given special attention to each & every component of our fence. Every item is designed for strength, durability and low maintenance. No other company builds a complete fence - rail, rivets, brackets, pickets and posts, that are stronger, more durable, have more security or lower maintenance costs than our fences. Monumental Iron Works, 6500 Eastern Ave., Baltimore, MD 21224. Tel: 410-633-6500, Fax: 800-239-2963.

Monumental Iron Works

CIRCLE 156 ON INQUIRY CARD

Chadsworth's 1.800.Columns www.columns.com

Voted No. 1 Preferred Brand i U.S. Columns, pillars, pilaste and posts available in woo PolyStone™ and fiberglas Interior, exterior. Variety of size and styles. Competitive price Job-site delivery. Worldwide shi ping. Our award-winning Ide Book features an exciting colle tion of column projects. Include Columns Product Portfolio, $2 soft cover, $30 hard cove Columns Product Portfolio $ (credited to first order). Free fli 800.486.2118 ▪ Fax 910.763.31

Chadsworth's 1.800.Column

CIRCLE 157 ON INQUIRY CARD

ADVERTISEMENT

Save $$$ on New Flooring

Visit the new Tuflex Rubber Flooring website at www.tuflex.com to see the complete color line including Spartus, Titan (an economically-priced line), feature strips for borders and accents, customized logos, reducer strips for wheel chair accessibility and the new 4'x6' ColorMat. Architectural specifications, installation and maintenance information is included as well as a company profile and Tuflex flooring's place in history as an early recycled product. Call 1-800-543-0390.

Tuflex Rubber Flooring

CIRCLE 158 ON INQUIRY CARD

CLEAR-Pb® Lead-Plastic Radiation Shield

Discover the advantage of incorporating Nuclear Associates' CLEAR-Pb® Lead-Plastic Radiation Shielding into your next project! Lead-impregnated plastic won't shatter; space saving; cost-effective; more versatile than old-fashioned lead-glass; quick, mess-free, hassle-free installation; ideal for medical and non-medical facilities; available in more than 100 standard sizes, seven lead equivalencies and now 16 colors. Floor-plan ideas available.

Nuclear Associates

CIRCLE 159 ON INQUIRY CARD

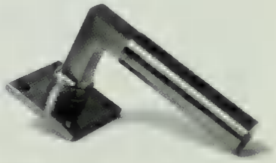
Panelfold's Walls So Tall! www.panelfold.com

Moduflex® Series 800 steel operable walls as high as 44' (4925mm) are made with rugged one-piece 14 gauge (1.99mm) steel frames permanently and invisibly welded to one-piece seamless steel faces surfaced with a wide variety of materials including COM. Panelfold Electronic Library Version 3 on CD ROM available upon request by FAX: 305-688-0185 or E-mail: sales@panelfold.com. Please visit our website: www.panelfold.com

Panelfold

CIRCLE 160 ON INQUIRY CARD

NANZ®



The No. 2006 is a Bauhaus handle based on a Walter Gropius design. Nanz manufactures this and a wide range of other levers, knobs, locks, hinges and cabinetry hardware. Fax a request for our free Product Selection Guide or our $20 catalogue featuring this and over seventy other handles. phone 212-367-7000, fax 212-367-7375. www.nanz.com

Nanz Custom Hardware Inc.

CIRCLE 161 ON INQUIRY CARD

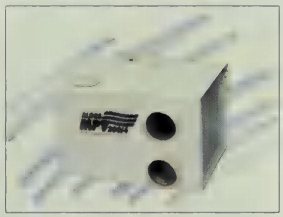
Parallel Design Partnership Limited

"ellen's brackets", an anodized-aluminum shelving system designed by M Ali Tayar, provides an elegant alternative to existing bracket-and-track systems. Cantilevered brackets come in two sizes, for shelves 3/4 or 3/8-in. thick and 10-in. deep. Wall-mounted tracks permit 1 1/2-in. adjustment of wood, glass or plexiglass shelves. For more info phone Parallel Design Tel: 212-989-4959 Fax: 212-989-4977.

Parallel Design

CIRCLE 162 ON INQUIRY CARD

Ventilate All Baths With One Quiet Fan

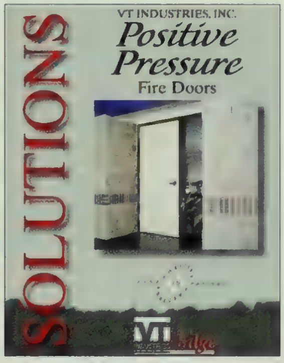


ALDES' MPV fan is designed for multiple and extensive duct runs. Remote mounting of fan assures almost silent operation. Up to 6 exhaust points at 50 cfm each. Equipped with a continuous duty motor, the MPV may be used also to provide IAQ Ventilation. Super Quiet, Powerful & Versatile. 3 year warranty. Cost Effective. American ALDES Ventilation Corp. 4537 Northgate Court, Sarasota, FL 34234, Call 1-800-255-7749, http//www.americanaldes.com

American ALDES

CIRCLE 163 ON INQUIRY CARD

Positive Pressure Fire Doors



Meet UBC 7-2-97 requirements with positive pressure fire doors from VT Industries, Inc. Our commitment to innovation manufacturing technology means you receive doors that deliver top performance plus added aesthetic appeal. VTI is Your Edge for outstanding quality and value. To learn more, ask for our free brochure at 800-827-1615, ext. 304.

VT Industries

CIRCLE 164 ON INQUIRY CARD

Melton Classics

Melton Classics architecturally correct columns, balustrades, and architectural details, are the industry standard for quality, yet are affordably priced. Columns are available in fiberglass, resin composite, and wood. MarbleTex™ Balustrades and Columns are integrally colored and require no painting. Ask us about our complete line of architectural elements in MeltonStone™ cast stone. 800-963-3060, web site www.meltonclassicis.com

Melton Classics

CIRCLE 165 ON INQUIRY CARD

RTISE: Ally Wingate at
ext 30 F (0) 889-9152
Ally Wingate McGraw-Hill.com

MANUFACTURERS' SPOTLIGHT

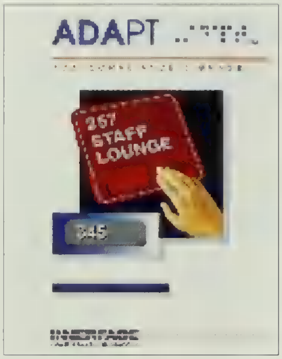
Unique Early Childhood Furniture

GRESSCO, Ltd introduces HABA® a new line of children's modular Loft furniture, shelving, platforms and room partitions in addition to our existing array of KinderSystem™ reading furniture. Now you can create a truly unique children's area in your hospital waiting room, daycare center, church or library. Call GRESSCO today for a FREE catalog at 800-345-3480, www.gresscoltd.com

GRESSCO Ltd.

CIRCLE 166 ON INQUIRY CARD

ADA Compliance Signage

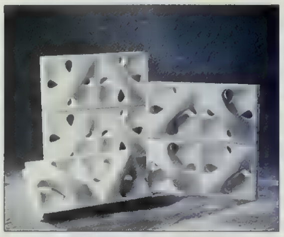


Innerface makes it easier for you to meet the Americans With Disabilities Act (ADA) signage standards. Innerface offers (1) A variety of compliance signage, (2) National distribution (3) Solid 27 year history and (4) Economical, attractive, & highly functional interior and exterior signage. Innerface also offers signage planning and wayfinding services. For free literature, please call 800 445-4796.

Innerface

CIRCLE 167 ON INQUIRY CARD

Sculptured Concrete Masonry Unit

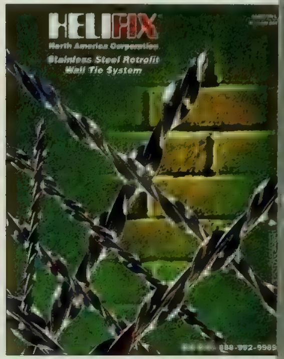


Winner of the "Award for Design Excellence", the 8"x16" Grille Blocks are made of 7,000 psi white Glass-Fiber-Reinforced Concrete and are sculptured on both sides. Visibility is limited to 5%, while allowing 22% free air to pass through, providing privacy and security. Contact us at 941-925-3331, Fax 941-925-5841, Grillblock@aol.com

Grille Block, LLC

CIRCLE 168 ON INQUIRY CARD

Stainless Steel Retrofit Wall Tie System

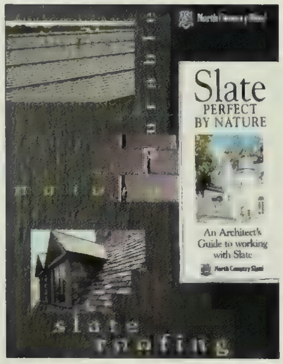

HELIFIX
North America Corporation
Stainless Steel Retrofit Wall Tie System

The unique Helifix 'DryFix' stainless steel remedial wall tie system is used to stabilize and strengthen masonry walls in both high rise and domestic buildings. The 'DryFix' system involves no toxic chemicals or complex expander devices while providing a fast, cost effective, stress free result in most common building materials. Helifix ties may also be used in new construction and masonry refacing. Call 888-992-9989 for further information Booth #1860 at CSI Show.

Helifix

CIRCLE 169 ON INQUIRY CARD

Slate Roofing



Natural North Country slate. For enduring character, nothing else compares. No wonder—it's perfected by nature! Free product brochure showcases the wide variety of sizes and colors, and comes with our Architect's Guide to working with this remarkable roofing material.

North Country Slate

CIRCLE 170 ON INQUIRY CARD

Matrix Composites Inc.

MADERA
Solid Surface Tile

Chosen by a distinguished panel of Architects for Architectural Record as one of the best new finishes for 1999, Madera Tile is made from an exciting new material known as Lignasil®. Using 100% post-use hardwood in a patented process, Madera forges new ground in "green" building material technology. Several textures are available in an exciting range of solid colors and unique color blends for your sustainable design solutions. Call 800-767-4495 www.maderatile.com

Matrix Composites Inc.

CIRCLE 171 ON INQUIRY CARD

Interactive Whiteboard

The Rear Projection SMART Board™ is an interactive whiteboard that allows you to control projected Windows® or Macintosh® applications and other multimedia by pressing on the Board's large, touch-sensitive surface. Write over top of applications and your notes are saved for future reference and distribution. Architects and facility designers can request the SMART Product Kit by calling 888-427-6278 or by visiting www.smarttech.com/productkit

SMART Technologies Inc.

CIRCLE 172 ON INQUIRY CARD

Xenon Luminaries

Space Cannon Illuminatio Inc. introduces the Litehose the latest in linear lighting tech nology made of extruded durable optical-grade acrylic Available in different diameter and sizes, reflective paint and films are not required The Focus is an architectura coloured luminarie utilizing 1200w lamp source designe to work with the Litehose o separately. 888-705-1028.

Space Cannon

CIRCLE 173 ON INQUIRY CARD

ADVERTISEMENT

Vision Control®: No Strings Attached!

No more curtains, shades or Venetian blinds constantly flapping in the wind and damaged by the opening and closing of the door. Custom-made hermetically sealed glass unit consists of rigid pivoting aluminum blinds, manually operated or motorized, no cords or strings attached! Dust-free & MAINTENANCE-FREE. Offers privacy, hygiene, control of light, heat, sound. For interior & exterior doors, windows, skylight, curtain walls. Call 800-668-1580. www.visioncontrol.qc.ca

Unicel Inc.

CIRCLE 174 ON INQUIRY CARD

Your Name Here!!

Digital graphic imaging, just one of Woodfold's unique ways to put your client's signature on our custom made folding doors. Since 1957 Woodfold has provided a full range of accordion and roll-up doors to the building products industry. Each door is custom made to order. Our folding doors are offered in models suitable for sight, sound, or installations calling for security.

Woodfold-Marco Mfg.,

CIRCLE 175 ON INQUIRY CARD

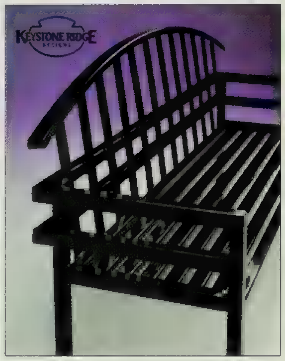
Genuine Cedar Shakes

Cedar shakes have been a premium roofing material for centuries, & their combination of beauty & performance is unbeatable in terms of value for the dollar. As the most tested of all roofing materials, cedar shakes have proven durability, even under extreme conditions. For fire hazardous regions, such as California, Meeker offers factory treated shakes with FTX® fire retardant. These shakes can be applied using various systems to achieve a Class A, B, or C fire rating. Call 800-663-8761 or www.meekercedar.com

Meeker Cedar Products

CIRCLE 176 ON INQUIRY CARD

Site Furniture of Distinction

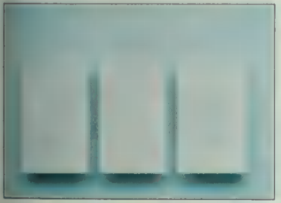


Keystone Ridge Designs, Inc. is the architect's choice for premier site amenities. Offering a full line of steel furnishings, we pride ourselves on exclusive designs and our patented powder coat finish, KEYSHIELD™, that is unparalleled in the industry. Quality, craftsmanship, and dedication to your creative vision are the hallmarks of Keystone Ridge Designs. For more information please call 800.284.8208 or e-mail KeystonRdg@aol.com. www.keystoneridgedesigns.com

Keystone Ridge Designs

CIRCLE 177 ON INQUIRY CARD

Lutron's new SeeTouch™



Lutron's new SeeTouch™ blends lighting control fashion with convenience. It is compatible with Lutron's GRAFIK Eye® Series for commercial application and HomeWorks Interactive™ Series for residential installations. Its large-style buttons are set at an upward angle, so it can be installed at and operated from standard switch height, instead of eye level.

Lutron

CIRCLE 178 ON INQUIRY CARD

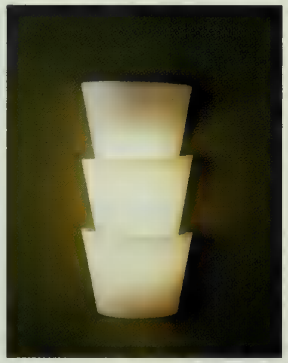
Luxalon Wide Panel Systems

The revolutionary ceiling system offers nominal 12" (300mm) wide panels in lengths up to 19'0" creating a clean sophisticated, monolithic ceiling plane. Long spans are available with a soft beveled edge or a reveal edge. The system provides both acoustics and aesthetics with easily installed panels. Available in 8 finishes and 2 perforation patterns. For further information call 800-366-4327.

Hunter Douglas

CIRCLE 179 ON INQUIRY CARD

Scala-3



Scala-3, a fashionable new design by Charles Loomis, Inc., radiates sophistication and simplicity with just a touch of whimsy. Available with etched opal acrylic, off-white linen and Aramid diffusers. Fluorescent and incandescent lamping options are available. Scala-3 is U.L. listed and ADA compliant. Contact Charles Loomis, Inc., at 800-755-0471 for more information.

Charles Loomis, Inc.

CIRCLE 180 ON INQUIRY CARD

Boa Two-Circuit Track System

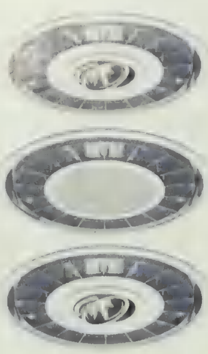
Bruck Lighting, the international leader in innovative low-voltage cable and track systems, introduces Boa, a low-voltage two-circuit track system with dual switching ability. Boa may be suspended or flush mounted, installed vertically or horizontally and is available in chrome or matte chrome. All Bruck Uni-lights fixtures can be utilized with Boa as well as all seven other Bruck track systems. www.brucklighting.com

Bruck Lighting Systems

CIRCLE 181 ON INQUIRY CARD

MANUFACTURERS' SPOTLIGHT

CircLet



Wila Lighting introduces CircLet, a revolutionary multifunctional downlight utilizing the circular T5 lamp. CircLet's modular construction allows integration of speakers, video cameras, accent lights, smoke detectors, and fire sprinklers in the center "free space" of the fixture, which eliminates ceiling congestion. www.wila.com

Wila Lighting, LLC

CIRCLE 182 ON INQUIRY CARD

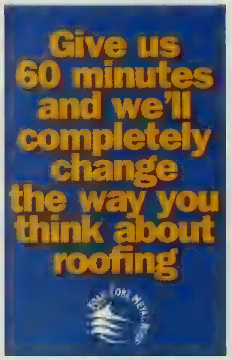
New CRSI 2000 Design Award Brochure Available

Seven winning structures from the Concrete Reinforcing Steel Institute (CRI) 15th biennial design competition featured in this 4-color brochure. All site-cast reinforced concrete, chosen from entries throughout North America. Project overview, photos, winning firms included for each project. Judging criteria included design aesthetics, engineering achievement and economy of construction. Web: www.crsi.org

CRSI

CIRCLE 183 ON INQUIRY CARD

Seminar Highlights Benefits of Foam Core Metal Roofs


Give us 60 minutes and we'll completely change the way you think about roofing
FOAM CORE METAL ROOF

The Metal Construction Association is offering a seminar that showcases the many advantages of foam core metal roofs, compared with competitive materials. It's enjoyable, interesting and informative – and you can earn AIA continuing education credits just for attending. Contact Centria at 800-759-7474 or Foam Core Metal Roof at 877-902-ROOF for complete details.

Centria

CIRCLE 184 ON INQUIRY CARD

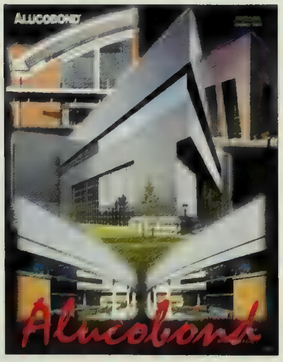
Make a Great Impression

New from Wausau Tile, Inc., ou
new "Impression" pavers and tre
surrounds. A wide variety of pre
cast patterned manufactured t
match most Wausau Tile paver
colors and finishes. Pavers avai
able in 18" and 24" square, tre
surrounds in 24" square with 12
square tree opening and 30
square with 18" tree opening
Contact Wausau Tile for mor
information. Call 800-388-8728.

Wausau Tile

CIRCLE 185 ON INQUIRY CARD

New Alucobond® Materials Brochure

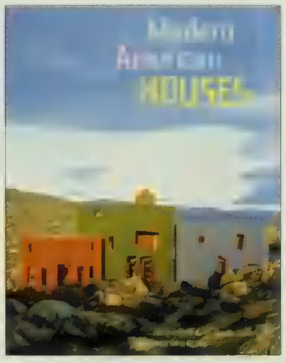


Totally new Alucobond® Material brochure in dramatic new format illustrates the use of Alucobond Material a variety of innovative applications and colors. Alucobond® Material is the original ACM (aluminum composite material) and has been used on more than 50,000 buildings worldwide. Alucobond Material is always the affordable solution. For more information, call 800-382-6445 or visit www.alusuisse-comp.com

Alusuisse Composites, Inc.

CIRCLE 186 ON INQUIRY CARD

Modern American Houses

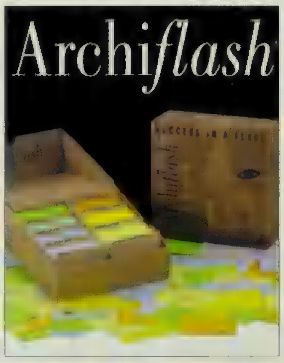


This 230-page book is packed with color photographs of more than 75 houses featured in Record Houses since 1956. New essays explore the evolution of home design decade by decade–Thomas Hines on the '50s, Robert Campbell on the '60s, Suzanne Stephens on the '70s, Charles Gandee on the '80s and '90s. $49.50. To order please call 212-904-4635.

Record Houses

CIRCLE 187 ON INQUIRY CARD

Pass the A.R.E. Study with Archiflash®



Prepare for the computerized Architect Registration Exam with Archiflash®. Each set contains over 1,100 expertly written flashcards covering all six multiple choice tests, plus a review section on Site Planning. Learning is easy with timesaving charts, essential definitions, concise diagrams, true/false and multiple choice Q & A. More information than you ever thought possible in an easy-to-use Flashcard format. Order by phone: 800-411-7314. Order online: www.archiflash.com

Nalsa, Inc.

CIRCLE 188 ON INQUIRY CARD

Record Houses "Virtual Reality" CD-ROM

A room-by-room tour, with arch
tects discussing their creativ
and product decisions. Clic
and zoom and move arour
objects via QuickTime® V
Architectural Record worke
closely with Graphisoft®, usir
ArchiCad®, to produce an intera
tive CD-ROM house tour th
includes photos and excerp
from the articles from the April '
issue. For Windows and Ma
$24.95. Record Houses C
ROM, Two Penn Plaza, NY, N
10121-2298.

Record Houses

CIRCLE 189 ON INQUIRY CARD

ADVERTISEMENT

Faculty Positions

Kuwait University

Department of Architecture

The Department of Architecture at Kuwait University invites applicants for appointments beginning February 2000. These appointments are nine months with paid summer vacations at the levels of Assistant Professors, Associate Professors, and Full Professors. Candidates will have demonstrated an ability to inspire students through excellent teaching, to publish research in international refereed journals, and to serve the community through committees, workshops and seminars.

Positions: The positions are as follows:

Position #1: Architectural History and/or Theory

The candidate is expected to teach and research in the areas of History and/or Theory in Western and Non-Western Architecture. Emphasis on Islamic and Middle-Eastern Architecture will be preferred. This includes the basic survey courses and electives. Those who can teach architectural design as well will be preferred.

Position #2: Architectural Design

The candidate is expected to teach design and some of the architectural core or elective courses.

Position #3: Fine Arts

The candidate is expected to teach courses in Painting, Ceramic, Photography, etc. Those who can teach architectural design as well will be preferred.

Position #4: Construction Management

The candidate is expected to teach courses in construction management as well as courses in structural design. Those who can teach architectural design as well will be preferred.

Qualifications: *Candidates should have the following qualifications:*

- Ph.D. degree in Architecture or equivalent. (Ph.D. holders other than Architecture should have Masters in Architecture to teach Design Studios).
- A minimum accumulative average of B (very good) in the undergraduate level (equivalent to 3.0/4.0 in the American academic system).
- The ability to teach courses in English. The ability to speak Arabic as well will be preferred, although not very necessary.

Applications: Applicants should submit a letter of application, copies of all diplomas and transcripts, a detailed curriculum vitae, and the names, address and telephone number of three references to: Kuwait University, College of Engineering & Petroleum, Department of Architecture, P.O. Box 5969, Safat Kuwait 13060, Phone: (965) 481-9094 Fax: (965) 481-2897.

LABARGE ENTERPRISES

REGISTERED ARCHITECTS AND ARCHITECT ENGINEERS' FOR DESIGN-BUILD PROJECTS IN TV-BROADCAST STUDIOS, HOSPITAL AND HEALTH CARE, E-COMMERCE BUILDINGS DATA PROCESSING AND CALL CENTERS AND TELECOMMUNICATION FACILITIES. POSITIONS NATIONWIDE — FAX 972-980-0090 WEBSITE WWW.HARDHATJOBS.COM

ARCHITECTS – $40,000-$135,000

ey positions nationwide with leading A/E Regional nd National firms. Management, design, staff and marketing positions. Highly Confidential! No fee! roup One Search, 639 N. 7th Str., Grand Junction, O 81501. Tel: (970) 241-2499, fax (970) 241-2504, mail: grouponesearch@aol.com. Visit our website www.grouponesearch.com today!

Visit us at www.architecturalrecord.com

PROJECT MANAGER
ARCHITECTURAL DESIGNER
PROJECT ARCHITECT

3D/International has opportunities across the U.S. for bright, energetic people. We're always on the lookout for the brightest and the best. We hope you'll find 3D/I the place where we can accomplish our goals together. And have fun doing it. For more information about opportunities with our organization, please visit our web site at www.3di.com or call Kathryn Garner at 713-871-7080.

ARCHITECT

Architect sought by architectural firm in Santa Monica, CA. Must have 1 yr exp reviewing plans w/consultants & preparing architectural dsgn, dvlpg plans using AutoCAD, PowerCAD & Photoshop. Bach in Architecture Dsgn req'd. Respond to: HR Dept., Kirkpatrick Associates Architects, 1811 Centinela Ave, Santa Monica, CA 90404.

ARCHITECTURAL DESIGNER
PROJECT COORDINATOR

Two positions available at Cent OH design, landscape & interior architecture firm. Architectural Designer to perform routine architectural assignments under direct supervision. Works from design of others, compiles data, performs design computation, makes quality takeoffs & prepares estimates, prepares architectural plans & renderings, consults with manufacturers, evaluates materials, writes architectural specifications & inspects architectural features of structures in the field. Limited judgement is required on work details when making preliminary selections & adaptations of alternatives. Requires Bachelor's degree in Architecture. No exp required. 40 hrs/wk, 7:30 a.m. to 5:30 p.m., Mon.-Thurs., 7:30 a.m. to 11:30 a.m., Fri. $40,000/yr. Send 2 resumes & cover letters (no calls) to Es Sp Prgms, REF# 6058D Ohio Bureau of Employment Services, PO Box 1618, Columbus, OH 43216. Project Coordinator to perform routine architectural assignments under direct supervision. Works from design of others, compiles data, performs design computation, makes quality takeoffs & prepares estimates, prepares architectural plans & renderings, consults with manufacturers, evaluates materials, writes architectural specifications & inspects architectural features of structures in the field. Limited judgement is required on work details when making preliminary selections & adaptations of alternatives. Requires Bachelor's degree in Architecture. No exp required. 40 hrs/wk, 7:30 a.m. to 5:30 p.m., Mon.-Thurs., 7:30 a.m. to 11:30 a.m., Fri. $35,000/yr. Send 2 resumes & cover letters (no calls) to Es Sp Prgms, REF# 6067D Ohio Bureau of Employment Services, PO Box 1618, Columbus, OH 43216.

INTERN ARCHITECT

Intern Architect, under supervision of licensed architect, will be responsible for preliminary architectural design, computer-aided drafting, and 3-dimensional conceptual computer modeling and animation; Develop analytic and quantitative computer models of sight-lines, visual fields, and traffic and pedestrian movements in buildings and cities using software packages such as Spatialist and Axman; Generate architectural details, free-hand sketches, and color rendering; Prepare schematics, design development drawings, and construction documents; Develop computer-aided statistical models of architectural design data. Require: Master's degree in Architecture. Must have a demonstrated ability to perform the stated duties as evidenced by portfolio. Salary: $32,000 per year, 8 am to 5 pm, M-F. Send resume to: Donna Byers, HR, Cooper Carry, Inc., 3520 Piedmont Rd. NE, Suite 200, Atlanta, GA 30305; Attn: Job MR.

ARCHITECTURAL DRAFTER-DENVER, CO

Bachelor's Degree in Architecture or Architectural Engineering or equivalent degree. 1yr. exp. in the job offered. Under close supervision, the following work is closely monitored: Assist in bid documents including construction documents, specs and cost estimates. Utilize AutoCAD13 and 14 and AutoArchitect. Assist with proposals, design guidelines, preliminary plans and detail refining. Utilize Microsoft Word and Word Perfect. Assist with presentation by making 3-D models or drawings. Utilize 3-D Studio, Adobe Photoshop and Form Z. Participate in work-meetings with clients and subcontractors. Assist with design drawings including title sheets, notes, specifications, site plans, floor plans, elevations, sections, interior elevations and details. Prepare hand drawings, renderings and models. 40 hr. wk. Salary $30,000.00 per year. Application by resume ONLY to Colorado Department of Labor & Employment, ATTN: Jim Shimada, Office of Employment Programs, Two Park Central, Suite 400, 1515 Arapahoe Street, Denver, Colorado 80202-2117, and refer to Job Order Number CO4662711. NO PHONE CALLS PLEASE. Must have proof of legal authority to work in the U.S.

Synthetic Gypsum Wallboard

See what it can do for the environment...

& your next project

www.temple.com/green

Temple
A Temple-Inland Company

INTERN ARCHITECT

Under supervision of licensed architect, perform preliminary architectural design, computer-aided drafting using AutoCAD and Microstation, detailing, freehand sketching, color rendering and computer generated 3-dimensional conceptual models and animation; prepare schematics and design development drawings; coordinate with structural, mechanical and electrical drawings; and prepare construction documents. Req: Master of Architecture or foreign degree equiv. & demonstrated ability to perform stated duties by portfolio. Salary: $31,500-38,000 per yr. 8:30 am to 5:30 pm, M-F. Send resume to Cooper Carry, Inc., 3520 Piedmont Rd., Suite 200, Atlanta, GA 30305. Ref. JL002.

INTERN ARCHITECT - MULTIPLE OPENINGS

Under supervision of licensed architect, perform preliminary architectural design, computer-aided drafting, using AutoCAD (2D & 3D), Adobe Photoshop 5.0, Microsoft Powerpoint & Microstation (2D & 3D), detailing, freehand sketching, color rendering & computer-generated 3-dimensional conceptual models; prepare schematics & design development drawings; develop structural physical models; coordinate with structural, mechanical, electrical & plumbing drawings; & prepare construction drawings & documents. Must have demonstrated ability to perform stated duties by portfolio. Req: Bachelor of Engineering/Architecture or foreign degree equiv in Architecture or related discipline plus 3 yrs exp in job offered or 3 yrs in related occupation as Architectural Assistant, Design Architect or any suitable combination of edu, training, and/or exp. Salary: $35K per yr. 8:30 am to 5:30 pm, M-F. Send resume to Urban Design Group, Inc., 2410 Paces Ferry Rd., Suite 270, Atlanta, GA 30339. Ref: WZ001.

TO ADVERTISE

CONTACT ALLY WINGATE
T:800-484-4042
F:(770) 889-9152

MICHAEL LATAS & ASSOCIATES

Executive search and professional recruiting services. Serving the construction industry exclusively nationally and internationally since 1975.

Your premier source for executive, managerial, and difficult-to-fill professional-level needs.
Contact our Architecture/Engineering Division.

MICHAEL LATAS & ASSOCIATES
1311 Lindbergh Plaza Center
St. Louis, MO 63132

(314) 993-6500 • Fax: (314) 993-0632
(800) 280-7811 • http://www.Latas.com

ARCHITECTURAL DESIGNER

Architectural Designer, under supervision of licensed architect, to perform preliminary architectural design, site planning, computer-aided drafting using AutoCAD software, Microstations, Form-Z, architectural detailing, color rendering and computer generated 3-dimensional conceptual models and animation; prepare schematics and draw plans to scale, coordinating with mechanical and electrical drawings; prepare construction documents. Require: M. Arch, in Architecture and demonstrated ability to perform stated duties by portfolio. Salary: $35,000 per year, 8:30 am to 5:30 pm, M-F. Apply with resume to: President, Perkins & Will, 1382 Peachtree Street, Atlanta, GA 30309.

SENIOR PROJECT MANAGER

Plans, designs, administers projects applying knowledge of design, construction procedures, zoning codes and materials. Elaborates maquettes showing different alternatives for project. Supervises proper ground and wall levels to ensure correct installation. Adjusts work plan to project's budget. Prepares bidding and establishes staffing for each phase. Selects and classifies materials like marbles, stones, granites, wood and carpet according to texture, thickness, installation order, and zoning. Uses hydrometer to measure humidity level in wood to guarantee quality of installation. Selects chemicals, special acids, sealers and crystalizers to treat corrections in marbles, stones, and granites due to texture changes and stains, Directs Spanish speaking workers engaged in applying correction treatments. 40hrs/week, 8am-4pm, $32,000/yr., job located in Miami, FL. Requires Bachelor's degree/equivalent in architecture/related field, 2 yrs. experience. Send resume to Ameris Best Home, Inc., c/o Victor Ratner, 1861 NE 146 St., N. Miami, FL 33181-1423.

SENIOR ARCHITECT

Sear-Brown is a nationally recognized, employee owned, full service firm with offices in key locations throughout the U.S. We offer an extraordinary compensation & benefit package, challenging work and career advancement. Our corporate headquarters in culturally rich Rochester, New York has an exciting opportunity for a Senior Architect with experience in design group management of healthcare projects including hospitals, senior housing, nursing facilities and medical office buildings. Candidate must be registered, preferably in New York. If you are interested in living in an area offering excellent schools, model health care, water and mountain sports, along with theater, music and arts galore, join a growing, reputable firm. Sear-Brown, 2250 Brighton-Henrietta Townline Rd., Rochester, NY 14623 Fax: 716.427.9124. EOE.

ARCHITECTS/TECHNICIANS

Architects & technicians with interest in theatre design and working with leading architects for Connecticut based international theatre consultants. Fax resume to Brian Hall, Theatre Projects, 203-431-4790. Visit our website at www.tpcworld.com

MID-LEVEL INTERIOR DESIGNER
PORTLAND, OREGON

Using 3D AutoCAD to design/plan space layout & interior furnishing for commercial & industrial building Project designer for projects. BA in Architectur Architectural Design, Interior Design or related fiel req. + 3 yrs. exp. in job offered or as Architect. Ex may have been gained concurrently w. educatio $44,000/yr., 40 hrs. per week. Resume/cover letter mu address each and every requirement or the applicatio will be rejected. Send resume to Employme Department Attn: Job Order No. 5552018, 875 Unio Street N.E., Room 201, Salem, OR 97311.

INTERIOR DESIGNERS/ARCHITECTURE/ FURNITURE DEALERSHIPS

American Personnel specializes in corporate designe and furniture specialists, established since 1969, are i constant search for prospective employees, to fill ou various job opportunities with our national client Project Managers/Ast. Project Mgrs/Sales Associates/Sal Asts./AutoCAD Operators/administrative Suppo /Entry-level Designers. Clients are based out of Ne York City, New Jersey, and other locations. For mo details on our services, please feel free to call Fra Cassisa - Executive V.P., Ph: 212-233-2900, Fax: 21 233-3043 or after 7pm at 732-360-0655.

ARCHITECTS

Architects need in diverse & growing firm. Mu have architectural degree & 2 years experience i retail & residential design. Fax resume to: Davi Berry at (713) 524-8335.

ARCHITECTURAL DESIGNER

Provides professional services in research, deve opment, design, construction, alteration or repa of real property, such as private residences, offi buildings, educational centers, under the superv sion of an architect licensed by the State: Consul with clients to determine functional and spati requirements and prepares information regardi design, specifications, materials, equipment, est mated cost and building time. 4 yrs. exp. reg. B. Architecture req. $32.26/hrJob site intvws: Agou Hills, CA. Send ad and resume to PSWC Grou Attn: Alan Camerano, 30101 Agoura Court, S15 Agoura Hills, CA 91301. Must show legal right work in U.S. if hired.

CONSULTANT ELMHURST, IL

Provide consulting service to U.S architectural a building firms regarding various projects. B.S. engineering and 1 yr. In job or 1yr. experience engineers required. Mon-Fri, 8:30am-5:00p $72,000/yr., no O.T. Applicants must show pro of legal authority to work in the U.S. Send letter interest or resume to: Illinois Department Employment Security, 401 S. State St., 7 Nort Chicago, IL 60605. Attention: Lydia Clarke, Refe ence #V-IL 22197-E. An employer paid ad. N calls. Send 2 copies of both resume & cover lett

WALLACE ROBERTS, &TODD, LLC

Seeks talented architects at levels of experienc Projects include libraries, gymnasiums, communi centers, corporate office buildings, private schoo college dormitories and senior and affordab housing, all with an approach based on strateg planning, environmental sustainable design.

RENDERINGS

ARCHITECTURAL RENDERINGS

Fortune 500 clientele, Watercolor: 11" x 17" $1499 tax, 3 days. 16" x 22", $2,399 + tax, 5 days. Vis MC, AmEx. Mayron Renderings, (212) 633-1503 (800) 537-9256. Email: mayronrend@rcn.com

ARCHITECTURAL RENDERINGS

For high quality architectural renderings, see Regan & Associates web site at www.iol.ie/~regan or E-mail Regan@iol.ie Telephone No. 011-353-1-298-0711. Fax 011-353-1-296-4508.

FACULTY POSITION VACANT

ASSISTANT PROFESSOR

Rice University invites applications and nominations for a tenure track appointment at the level of Assistant Professor. This full time position is available beginning 2001 for a person qualified to conduct design studios and lecture courses at both the graduate and undergraduate level. Candidates should hold a Master of Architecture degree or its equivalent. Prior teaching experience and a record of scholarly work in related studies are desirable. Applications will be considered until 15 October 2000. Letter of interest, curriculum vitae, 3 pages of design work, and the names of 3 references should be forwarded to: Dr. Nana Last, Chair, Faculty Search Committee, Rice University, School of Architecture, MS-50, 6100 Main St., Houston, TX 77005. Rice University is an equal opportunity/affirmative action employer. Applications from women and minority candidates are encouraged. Rice does not discriminate on the basis of race, color, religion, sex, sexual orientation, national or ethnic origin, age, disability, or veteran status.

BUSINESS OPPORTUNITIES

FIRM FOR SALE

20 year firm in a growing NE Florida Coastal Community specializing in high end custom homes and design intensive commercial work. Beautiful location. Includes current client base, contracts, and assets. Excellent staff. Call (888) 312-9605. Leave message. All calls will be returned. Confidentiality a must.

SPECIAL SERVICES

www.woodwindows.com

GreenwayGroup
(800) 726-8603
www.GreenwayGroup.net
Premier Research, Consulting and Publishing for A/E/ID/C Entrepreneurs

DesignIntelligence

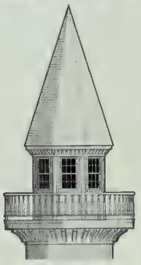
Receive a full year of *DesignIntelligence* (24 issues)—the industry's preferred management newsletter—for $199. DI presents fresh strategies for success, including trends, financial benchmarks, and management and marketing solutions. Call today for a free sample issue.

Did
you
know...
that you can receive continuing education credits by reading
ARCHITECTURAL RECORD
See the table of contents for details.

COMPUTER SERVICES

Power, Functionality
& Attention to Detail

6 FLATLAND



...Abundant 2D Tools; Easy to
Learn and Use...
...Powerful and Useful...
Cadalyst Magazine, October 1996

Call (800) 247-2032 for Free Working Demo

FLATLAND 6... Serious Two
Dimensional Drafting for
Building Design Professionals

Ashcraft Architectural Computer Graphics
220 Glen Street, Glens Falls, NY 12801 (518) 798-4631 (800) 247-2032

Circle 190 on Inquiry Card

ARCHITECTURAL RECORD: (ISSN 0003-858X)Vol. 188, No. 7. Published monthly by The McGraw-Hill Companies, 1221 Avenue of the Americas, New York, N.Y. Periodicals postage paid at New York, N.Y. and additional mailing offices. Canada Post International Publications Mail Product Sales Agreement No. 246565. Registered for GST as The McGraw-Hill Companies. GST No. R123075673. **POSTMASTER:** *Please send address changes to* ARCHITECTURAL RECORD, Fulfillment Manager, P.O. Box 566, Hightstown, N.J. 08520. **SUBSCRIPTION:** Rates: U.S. and Possessions $59; Canada and Mexico $79 (payment in U.S. currency, GST included); outside North America $199 (air freight delivery). Single copy price $8; for foreign $10.

GET CONNECTED!
GO TO www.architecturalrecord.com

NEW! Daily Headline & Late Breaking News
People and products behind projects in Record
Digital products buyers' guide
Technology product reviews
Sustainable resources
Guide to green products
Building technology
Continuing education
Index to past issues
"From the Field" Editor's Journal
Career opportunities & online job fairs for additional positions
Links to advertiser web sites & product information ... and more

Architecturalrecord.com:
YOUR LINK TO THE WORLD OF ARCHITECTURE.

Affordable. Effective. Rewarding.

With Architectural Record and Architecturalrecord.com

Reach 250,000+ active architectural professionals at all stages of their careers. Recruit nationally and internationally.

Combine Print and Online advertising to fill key positions quickly and effectively:

- **Promote your firm** as a great place to work in the magazine and on architecturalrecord.com
- **List your available jobs** in the magazine or on architecturalrecord.com
- **Create an on-line job fair** customized for your firm
- **Drive traffic** to your own website with your ad in the magazine or with links from architecturalrecord.com

For Recruiting Results, Call Ally Wingate at 1-800-484-4042, Ext. 3042.

ARCHITECTURAL
RECORD
McGraw Hill Construction Information Group
A Division of The McGraw-Hill Companies

Profile

Iole Allessandrini: An architect turned artist lights up our lives

Interviewed by Elizabeth H. Kubany

"Space reveals light, light reveals space," says Iole Allessandrini. And few people are as well qualified as she to make such a statement. Trained as an artist and an architect in her native Italy, Allessandrini has worked for architectural firms in Rome, Milan, London, and Seattle—the city she currently calls home. Several years ago she received her Lighting Certificate, which she puts to use as a site-specific artist who blends natural light, artificial light, video, sound, and architectural landmarks—from a 1906 water tower in Seattle to wall fragments from demolished buildings in Tacoma. The Seattle Art Commission and the Paul Allan Foundation for the Arts have acknowledged Allessandrini's work with generous grants.

Q: *You are an architect, an artist, and a lightin designer. How does your knowledge of all thes disciplines affect your art?* My art deals with th ephemeral. It appears, disappears, and changes dependin on the sun. In that sense, it is the opposite of architectur But architecture is both the inspiration and the shelter fo my light transformations. My work is revealed by the architectural elements with which it is composed.

You seem to love architecture. Why did you stop practicing? A a young girl, I was always interested in fine art. I decided t study architecture because it is a much more complete discipline than any other profession. It combines a humanisti artistic, and scientific approach. Although I no longer buil buildings, I still think of myself as an architect. I try to put m knowledge of buildings to inventive and evocative use.

What made you decide to pursue these explorations light? My perception of the world is that it is already to crowded. We have no need for additional objects. Light a minimalist medium because it simply intervenes an interacts with something that already exists.

Your work has evolved quite a bit, from explorations natural light to interventions with existing structure How has this happened? Yes, my first work was a vide installation installed in a park—an attempt to integrat natural light and elements of nature with technology. I essence, it was a study of human visual perception. I wa interested in how the video was perceived by the viewe at different times of day. I am still interested in explorin perception, and my work today always incorporates na ural light. But today there is an added element, which architecture. My recent projects have been about beaut fying and enhancing existing built structures.

What has been the response to your work? Are people appreciative? One of my recent projects, *Winter, Season of L* was installed in two demolished city blocks in Tacoma. Th is a neglected area of the city; before I started working, th site looked like a bomb had dropped there. I am not exaggerating when I sa people used to cover their eyes when they walked by this sad area. I used thes urban remains as my inspiration and added a reflecting pool, light-reflecting par els, and light that changed from light pink to deep red depending on the time day. When everything was lit, the whole block started to glow. The mayor and th city council of Tacoma proclaimed January 2000 as Season of Light Month an encouraged all citizens of Tacoma to visit the exhibit. I guess the built enviror ment really can affect people's lives.

Photograph by Richard Nicol

WWW *Find other interviews at* **Interviews** *on:* **www.architecturalrecord.con**

DESIGN AS HIGH OR AS WIDE AS YOU CAN DREAM...

With Strong, Lightweight and Durable Metal Wall and Cladding Systems

A complete palette of colors and finishes, textures and profiles for the most discriminating designers of high- and low-rise commercial, institutional and industrial buildings.

Contact the Metal Construction Association for some free thought-provoking ideas, technical literature, Merit Awards entry brochure and more information on MCA's Metal Wall Panel Council.

104 S. MICHIGAN AVE.
STE. 1500
CHICAGO, IL 60603
PHONE: 312-201-0193
FAX: 312-201-0214
www.mca1.org

MCA
Metal Construction Association

CIRCLE 49 ON INQUIRY CARD

Telephone 800 OK KROIN
Telefax 617 492-4001

Design: Professor Arne Jacobsen, MAA
Selected for the Design Collection, MoMA.

For information Circle 100.

gust

ITECT
RECORD

3 9042 05168103 6

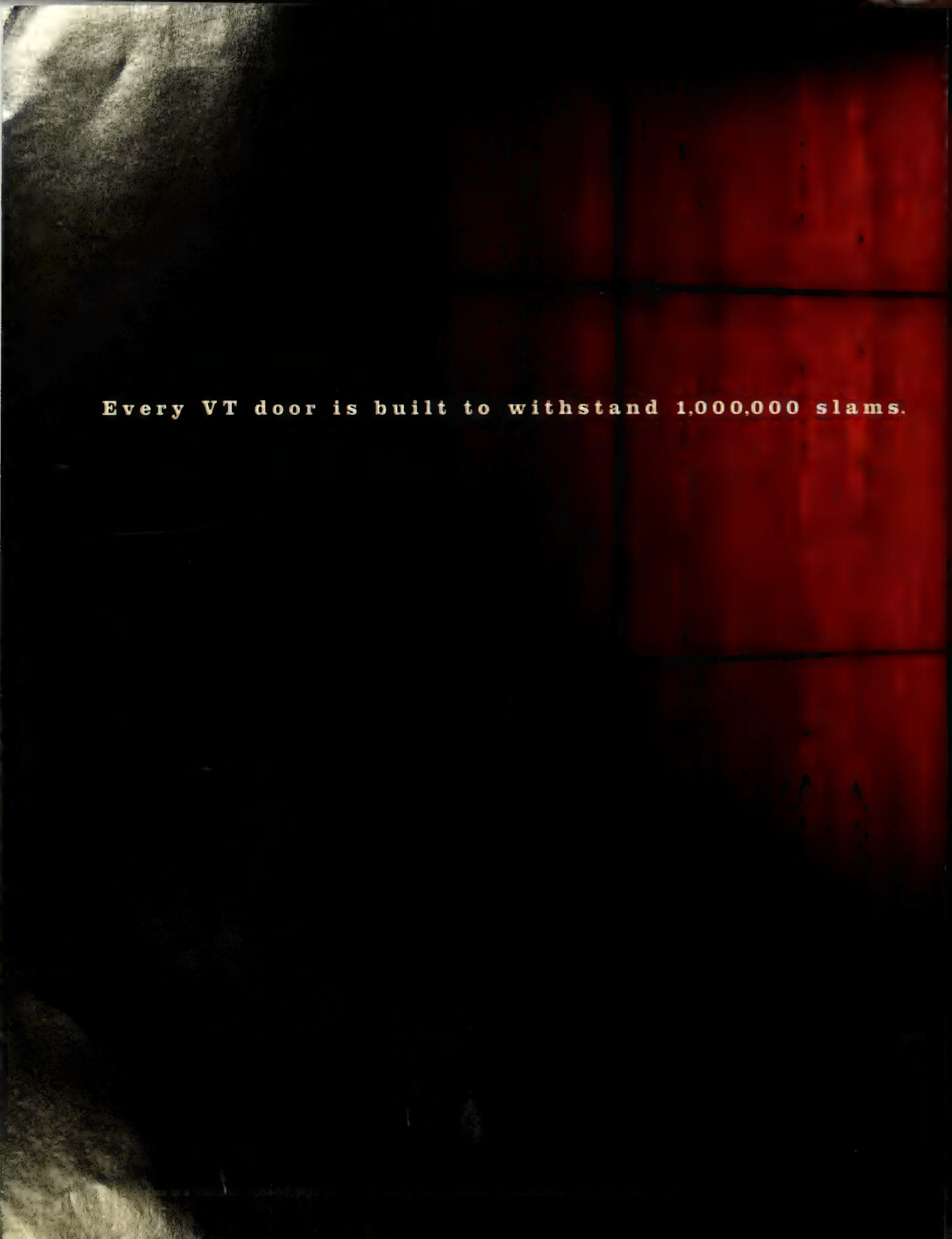
Cosmic Portal
The Rose Center for Earth and Space

The Reluctant Star:
James Stewart Polshek
on His Firm and Its Universe

M.P. Rocks Seattle

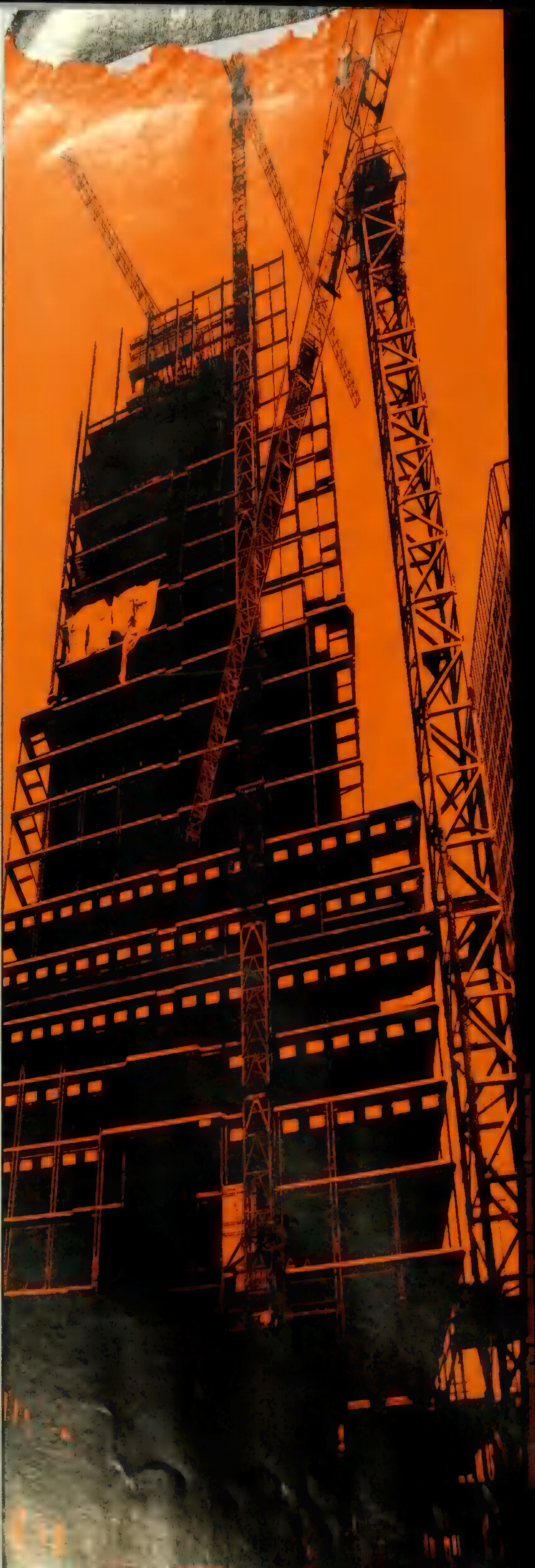
Special Section: LIGHTING

RLINGAME
1 4 2000
IBRARY


Every VT door is built to withstand 1,000,000 slams.

Beautiful. Dependable. Genuine. And unlike so many other things in this world, each one comes with a lifetime guarantee. VT decorative laminate and wood veneer doors. For more information, call 1-800-827-1615 ext. 210, log on to www.vtindustries.com, or e-mail door_info@vtindustries.com.

VT INDUSTRIES
Architectural Wood Doors
CIRCLE 1 ON INQUIRY CARD



SLEEK LINES
SUBTLE
CURVES
AND GRACEFUL
NEO
CLASSIC
ARCHES

MAKE SURE THEY
BUILD IT THE WAY
YOU DESIGNED IT.

buzzsaw.com™
an Autodesk® venture

Set up a personalized project site on Buzzsaw.com's secure servers and get your whole team working together in a matter of minutes. Register the members you want with the permission level you choose, and use your central workspace to track decisions and changes throughout the project lifespan. From design collaboration, to bidding and buying, to construction management, it's all in a day's work at Buzzsaw.com.

CIRCLE 2 ON INQUIRY CARD

ARCHITECTURAL RECORD

08.2000

News

28 **Millennium Bridge vibrates, closes**
32 **Hejduk, Miralles die**

Departments

17 **Editorial: Tempus fugit***
22 **Letters***
49 **Correspondent's File: Dubrovnik** *by Bette Hammel*
53 **Practice Matters: Unproven waters** *by Elizabeth H. Kubany*
55 **Critique: Civilizing sprawl** *by Suzannah Lessard*
59 **Exhibitions: Dunescape at P.S. 1** *by Clifford A. Pearson*
63 **Snapshot: Lakeside Community Center** *by Elizabeth H. Kubany*
256 **Profile: Richard Koshalek***

Features

68 **Drawing a Crowd** *by Thomas Mellins*
What is luring the public to architectural exhibitions?
78 **Photo Essay** *by Richard Pare*
Rediscovering the Soviet Modernist buildings history almost forgot.
88 **Interview: James Stewart Polshek** *by Robert Ivy, FAIA**
The architect reveals his unique practice philosophies.

Projects

98 **Rose Center, *New York City*** *by Clifford A. Pearson**
Polshek Partnership
Capturing the universe in glass and steel.
112 **St. Jean Vianney, *Baton Rouge, La.*** *by Christine Kreyling**
Trahan Architects
Faith flourishes at this dramatic Catholic church in Louisiana.
120 **Central Library, *Seattle*** *by Sheri Olson, AIA*
OMA
How Seattle learned to stop worrying and love the new library.
126 **Experience Music Project, *Seattle*** *by James S. Russell, AIA**
Frank O. Gehry and Associates
A marriage of money, technology, youth culture, and glitz, EMP is Gehry's paean to rock 'n' roll rebellion.

The AIA/ARCHITECTURAL RECORD continuing-education *pportunity is "Sleuthing out building ilures" [page 163].*
over: *The Rose Center by Polshek Partnership. Photograph by Andre Souroujon*
Above: *Frank Gehry's Experience Music Project. Photograph by Lara Swimmer/ESTO*

Building Types Study 788

141 **Essay: Colleges and Universities** *by Andrea Oppenheimer Dean*
142 **Smith Campus Center, *Pomona College*** *by Susan Doubilet**
Robert A.M. Stern Architects
146 **Mayer Residences, *Tulane University*** *by Deborah Snoonian, P.E.**
Perkins & Will
152 **Science Center, *Santa Monica College*** *by Lisa Findley**
Anshen + Allen LA
156 **Howard and Stowe Halls, *Bowdoin College*** *by Elizabeth Arcuri**
William Rawn Associates

Building Science & Technology

163 **Sleuthing out building failures** *by Deborah Snoonian, P.E.**
173 **Tech Briefs**
177 **Digital Architect: The Rose Center** *by Jerry Laiserin, FAIA**

Lighting

183 **Lighting Introduction**
184 **Creative Uses**
188 **Lighting Retail Stores** *by William Weathersby, Jr.*
Retail lighting focuses on consumer psychology.
196 **British Telecom Tower** *by Nayana Currimbhoy*
A telecommunications giant gets a space sculpted in light.
199 **Kauffmann Foundation** *by Nayana Currimbhoy*
A minimalist palette lights a headquarters with elegance.
204 **Lighting Technology** *by Lindsay Audin*
Everything you ever wanted to know about the new T5 lamps.
211 **Lighting Resources**

Products

219 **Tile and Stone**
223 **Product Briefs**
230 **Product Literature**

44 **What's at architecturalrecord.com**
232 **Dates/Events***
242 **AIA/CES Self-Report Form***
244 **Reader Service***
248 **Manufacturers' Spotlight**
254 **Classified Advertising***

WWW * For a full transcript of the interview with Polshek Partnership, including conversation with all seven partners, go to www.architecturalrecord.com, your source for more information on featured projects, news, digital technology, and more.

Clifford J. Lawrence Junior High School
Las Vegas, Nevada
Firm: Welles-Pugsley Architects
Project Architect: Wade Simpson

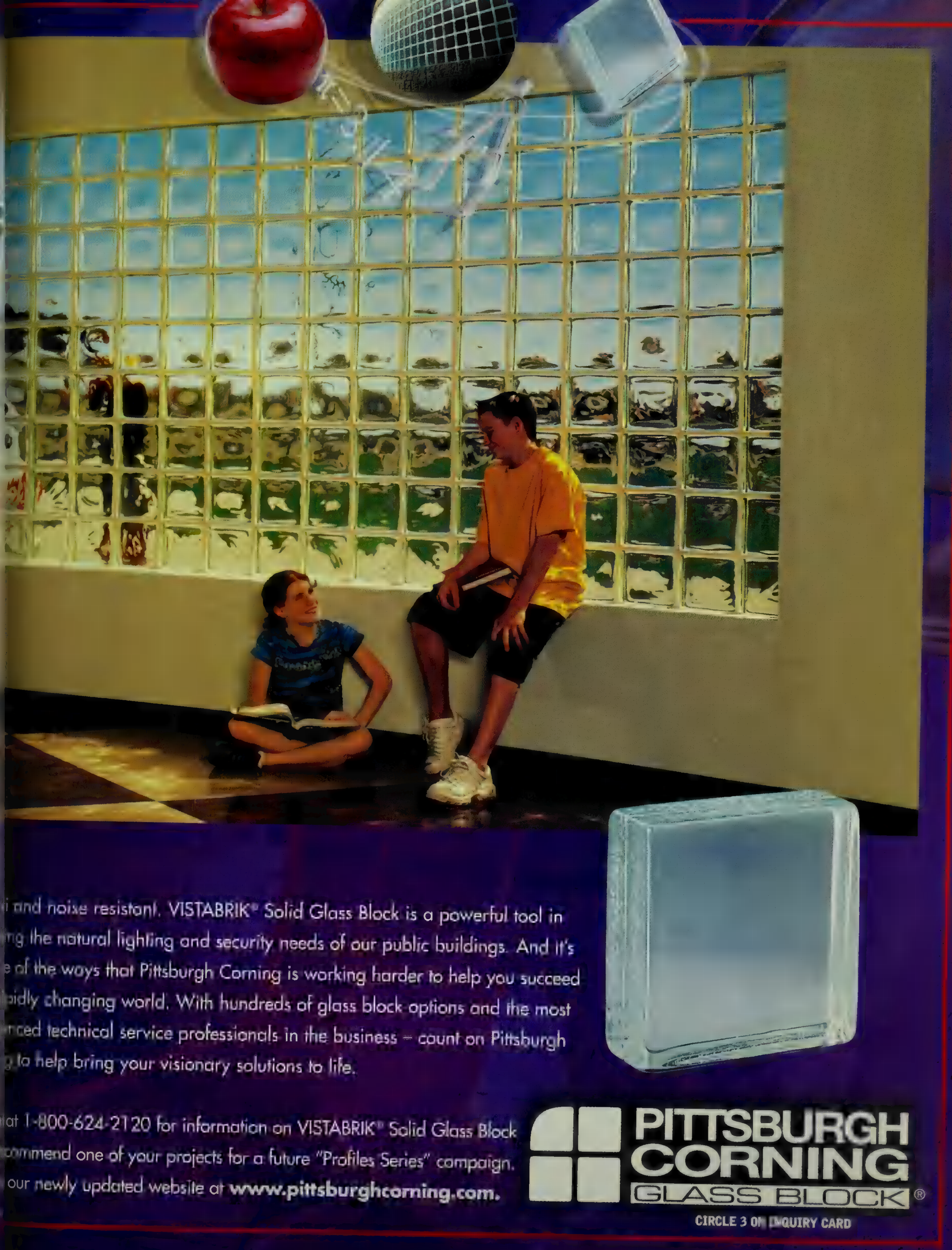
BRIGHT FUTURES NEED SOLID SUPPORT AND VISTABRIK® GLASS BLO

A child's mind is the most precious resource on our planet. Given the right opportunities and a bright, open environme can grow to be the greatest inventors, innovators and artists we have ever known. But in our far – from – perfect worl schools need to be safer than ever – without sacrificing that open environment.

"The challenge is to develop a design which allows for plenty of daylight without compromising security." – Wade Simpson, Architect.

To do that, his plans for this junior high school called for ingenuity, creativity and a lot of Pittsburgh Corning 3-inch thick VISTABRIK® Solid Glass Block.

No other building material offers the beauty, strength and vandal resistance of VISTABRIK® Solid Glass Block. Impact resistant. Bullet resistant. Fire resistant.



i and noise resistant. VISTABRIK® Solid Glass Block is a powerful tool in
ng the natural lighting and security needs of our public buildings. And it's
e of the ways that Pittsburgh Corning is working harder to help you succeed
pidly changing world. With hundreds of glass block options and the most
nced technical service professionals in the business – count on Pittsburgh
g to help bring your visionary solutions to life.

at 1-800-624-2120 for information on VISTABRIK® Solid Glass Block
commend one of your projects for a future "Profiles Series" campaign.
our newly updated website at **www.pittsburghcorning.com.**

PITTSBURGH
CORNING
GLASS BLOCK®

CIRCLE 3 ON INQUIRY CARD

Custom Built to Your Design

Professionals in the field tell us they prefer to specify Elevette® residential elevators because of their reliability and custom features. We design and build unique products that eliminate call backs. Specify Elevettes in the upscale homes you design. They're the number one residential elevator on the market.

INCLINATOR
COMPANY OF AMERICA®

Refer to Sweet's 2000
General Building
& Renovation File 14235/IND

For free literature, call **1-800-343-9007**
or write to: Dept. 66, PO Box 1557,
Harrisburg, PA 17105-1557
e-mail: isales@inclinator.com www.inclinator.com

Custom design features include free-standing units

CIRCLE 4 ON INQUIRY CARD

ARCHITECTURAL
RECORD

EDITOR IN CHIEF	Robert Ivy, FAIA
MANAGING EDITOR	Ingrid Whitehead
DESIGN DIRECTOR	Anna Egger-Schlesinger
SENIOR EDITORS	Charles Linn, AIA
	Clifford Pearson
	Wendy Talarico
	Sarah Amelar
NEWS EDITOR	John E. Czarnecki, Assoc. AIA
PRACTICE EDITOR	Elizabeth Harrison Kubany
PRODUCTS EDITOR	Rita F. Catinella
COPY EDITORS	Elizabeth Kugler, Lisa Rosman
WEB CONTENT EDITOR	Kevin Lerner
ASSOCIATE ART DIRECTOR	Kristofer E. Rabasca
ASSISTANT ART DIRECTOR	Clara Huang
PRODUCTION COORDINATOR	Juan Ramos
INTERN	Amy Simonovski
EDITOR AT LARGE	James S. Russell, AIA
SPECIAL CORRESPONDENT	Suzanne Stephens
ILLUSTRATORS	Muriel Cuttrell, Kira Eng, I-Ni Chen
CONTRIBUTING EDITORS	Robert Campbell, FAIA, Andrea Oppenheimer Dean, David Dillon, Lisa Findley, Blair Kamin, Jerry Laiserin, FAIA, Nancy Levinson, Lee Mitgang, Robert Murray, Sheri Olson, AIA, Nancy Solomon, AIA, Michael Sorkin, Tom Vonier, AIA, William Weathersby, Jr.
INTERNATIONAL CORRESPONDENTS	David Cohn, Claire Downey, Tracy Metz, Naomi R. Pollock, AIA
SPECIAL PROJECTS	Charles Pinyan, Paul Herrmannsfeldt
RESEARCH DIRECTOR	John Conkling
DIRECTOR OF PROMOTION	Deborah Smikle-Davis
FINANCE	Michael Florek, Shlomo Messinger
CIRCULATION	Maurice Persiani, Brian McGann
ADVERTISING PRODUCTION MANAGER	Stephen R. Weiss
ADVERTISING DIRECTOR	David Johnson
VICE PRESIDENT/PUBLISHER	Elaine Shusterman

EDITORIAL OFFICES: 212/904-2594 Editorial fax: 212/904-4256 E-mail: *rivy@mcgraw-hill.com.*
Two Penn Plaza, New York, N.Y. 10121-2298
WEB SITE: www.architecturalrecord.com
SUBSCRIBER SERVICE: 888/867-6395 (U.S. only). 609/426-7046 (outside the U.S.). Subscriber fax: 609/426-7087. E-mail: *p64ords@mcgraw-hill.com.* AIA members must contact the AIA for address changes on their subscriptions. 800/242-3837. E-mail: members@aia.org.
INQUIRIES AND SUBMISSIONS: Letters, R. Ivy, *rivy@mcgraw-hill.com*; Lighting, C. Linn, *linnc@mcgraw-hill.com*; Books, C. Pearson,*pearsonc@mcgraw-hill.com*; Technology, W. Talarico, *wendy_talarico@mcgraw-hill.com*; Record Houses and Interiors, S. Amelar, *sarah_amelar@mcgraw-hill.com;* Practice, E. Kubany, *elizabeth_kubany@mcgraw-hill.com*; Products, Catinella, *rita_catinella@mcgraw-hill.com;* News, J. Czarnecki, *john_czarnecki@mcgraw-hill.com;* Web Editorial, K. Lerner, *kevin_lerner@mcgraw-hill.com*

SUBSCRIPTION: Rates are as follows: U.S. and Possessions $59; Canada and Mexico $79 (payment in U.S. currency, GST included); outside North America $1 (air freight delivery). Single copy price $8; for foreign $10. Subscriber Services: 888/867-6395(U.S. only); 609/426-7046 (outside the U.S.); fax: 609/426-7087.
SUBMISSIONS: Every effort will be made to return material submitted for possible publication (if accompanied by stamped, self-addressed envelope), but the editors and the corporation will not be responsible for loss or damage.
SUBSCRIPTION LIST USAGE: Advertisers may use our list to mail information to readers. To be excluded from such mailings, send a request to ARCHITECTURAL RECORD, Mailing List Manager, P.O. Box 555, Hightstown, N.J. 08520.
OFFICERS OF THE MCGRAW-HILL COMPANIES: *Chairman, President and Chief Executive Officer:* Harold McGraw III. *Executive Vice President and Chief Financial Officer:* Robert J. Bahash. *Executive Vice President, Organizational Effectiveness:* Barbara B. Maddock. *Executive Vice President, Global Markets:* John D. Negroponte. *Senior Vice President and General Counsel:* Kenneth M. Vittor. *Senior Vice President, Corporate Affairs, and Assistant t the President and CEO:* Glenn S. Goldberg. *Principal Operating Executives:* Leo C. O'Neal, *President, Standard & Poors;* Vasant Prabhu, *President, Information and Media Services;* Robert E. Evanson, *President, Educational and Professional Publishing Group.*
MCGRAW-HILL CONSTRUCTION INFORMATION GROUP: Norbert W. Young, Jr., FAIA, *President*

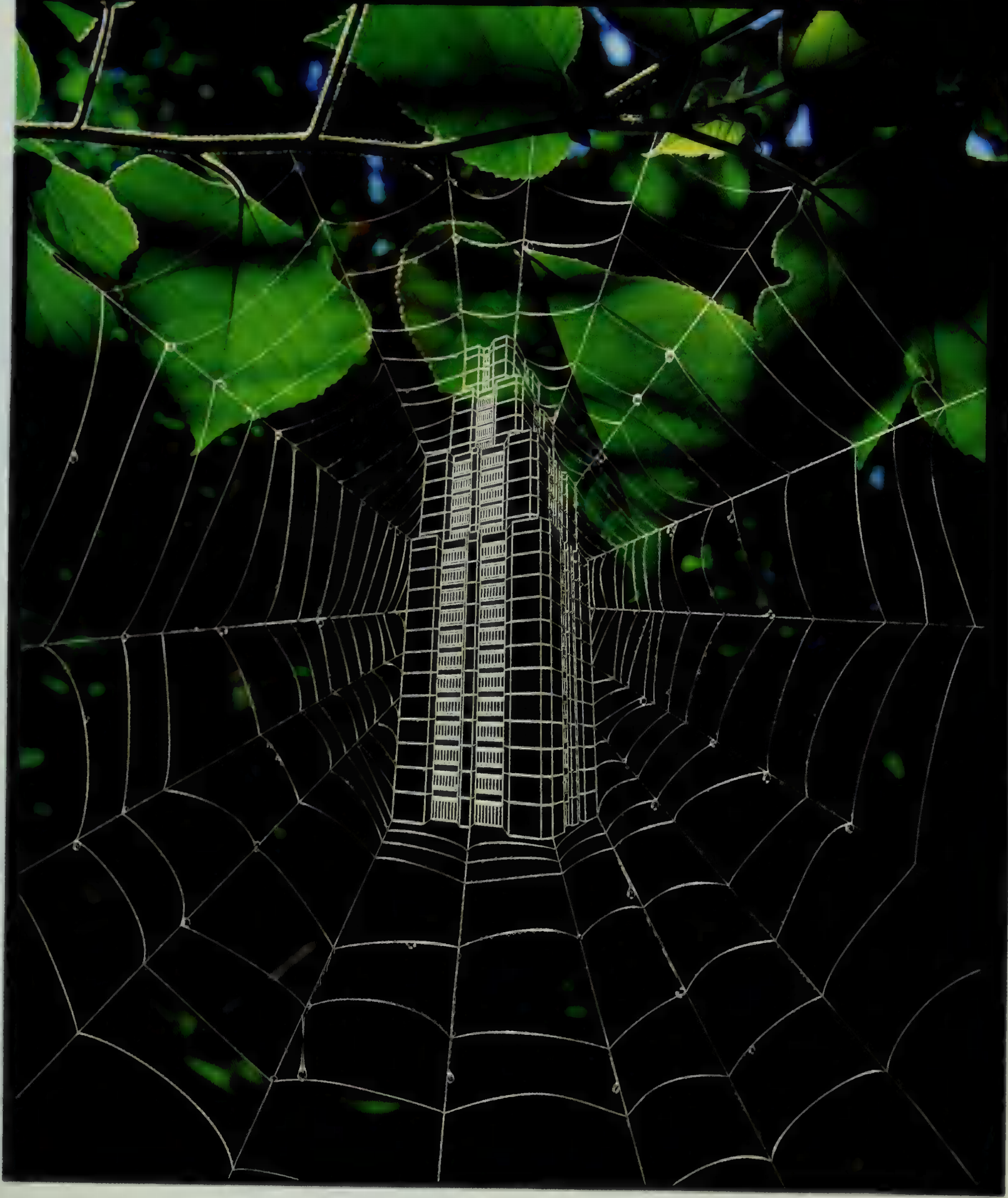
COPYRIGHT AND REPRINTING: Title ® reg. in U.S. Patent Office. Copyright © 2000 by The McGraw-Hill Companies. All rights reserved. Where necessary, permission is granted by the copyright owner for libraries and others registered with the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, Mass. 01923. To photocopy any article herein for personal or internal reference use only for the base fee of $1.80 per copy of the article plus te cents per page, send payment to CCC, ISSN 0003-858X. Copying for other than personal use or internal reference is prohibited without prior written p mission. Write or fax requests (no telephone requests) to Copyright Permission Desk, ARCHITECTURAL RECORD, Two Penn Plaza, New York, N.Y. 10121-2298; fax 212/904-4256. For reprints call 609/426-5129 or fax 609/426-7087. Information has been obtained by The McGraw-Hill Companies fr sources believed to be reliable. However, because the possibility of human or mechanical error by our sources, The McGraw-Hill Companies or ARCHITECTURAL RECORD does not guarantee the accuracy, adequacy, or completeness of any information and is not responsible for any errors or omis sions therein or for the results to be obtained from the use of such information of for any damages resulting therefrom.

PRINTED IN USA

Architectural Record
McGraw-Hill Construction Information Group
A Division of The **McGraw-Hill** *Companies*

ABC MPA

THE AMERICAN INSTITUTE OF ARCHITECTS 2000 BOARD OF DIRECTORS ▪ OFFICERS: *President:* Ronald L. Skaggs, FAIA; *First Vice President:* John D. Ander FAIA; *Vice Presidents:* Linda Searl, FAIA, Gordon H. Chong, FAIA, J. Richard Kremer, AIA; *Secretary:* Stephan Castellanos, FAIA; *Treasurer:* Harry Rutledge, AIA, RI **REGIONAL DIRECTORS:** Roy Abernathy, Assoc. AIA, Jerry E. Abramson, Harold L. Adams, FAIA, RIBA, JIA, John Reid Benson, AIA, Bruce E. Blackmer, AIA, D Bradford, AIA, RIBA, ASLA, Timothy G. Cahill, AIA, Stephan Castellanos, AIA, Lugean L. Chikote, FAIA, Donald M. Comstock, AIA, John F. Corkill Jr., AIA, Be Darmer, FAIA, Richard Farson, Ph.D., Thomas G. Fernandez, AIA, Richard L. Ford Jr., AIA, John P. Franzen, AIA, James Gatsch, AIA, Holly K. Gerberding, AIA, Eu Hopkins, FAIA, Timothy D. Kent, CAE, Edward Kodet Jr., FAIA, Lawrence R. Livergood, AIA, Kenneth Maynard, FAIA, David Messersmith, FAIA, Melissa Milett, Bar A. Nadel, FAIA, Robert L. Newsom III, FAIA, Thompson E. Penney, FAIA, Michael L. Prifti, AIA, Angel C. Saqui, FAIA, Larry M. Schneider, AIA, Katherine L. Schwenn AIA, Wayne D. Silberschlag, AIA, Bill D. Smith, FAIA, Marvin J. Sparn, FAIA, Douglas L. Steidl, FAIA, Ward Whitwam, AIA, David L. Wooley, AIA, Steven Winkel, *CACE Representative:* Timothy D. Kent, CAE; *AIAS Representative:* Melissa Milett • **AIA MANAGEMENT COUNCIL:** Norman L. Koonce, FAIA, *Executive President/CEO;* Jim Dinegar, *COO;* Richard J. James,*CFO;* Chuck Hamlin, *Managing Director, AIA Communications;* Brenda Henderson, *Managing Director, Component Relations;* Dale R. Ellickson, FAIA, *Managing Director, AIA Contract Documents;* Lisa Blackwell, *Managing Director, AIA Government Affairs,* Laura *Managing Director, AIA Human Resources;* Kimberly Allen, *Managing Director, AIA Knowledge Center;* Kenna Wood, *Managing Director, AIA Marketing and Rese* John Gaillard, *Managing Director, AIA Meetings and Events;* Nancy Somerville, Hon. AIA, *Managing Director, AIA Membership Systems;* Michael Copp, *Managing Dir AIA Professional Practice;* Helene Combs Dreiling, FAIA, *Managing Director, AIA Stakeholder Relations;* Philip D. O'Neal, *Managing Director, AIA Technology*



AUTOCAD LT 2000i SUDDENLY DESIGN IS A WHOLLY CONNECTED PROCESS.

Now it's easier than ever to get your entire design team wired and working together. AutoCAD LT 2000i combines 100% AutoCAD® 2000 & 2000i compatibility with Internet collaboration and professional 2D CAD features. It's the complete low cost productivity tool for connected environments.

autodesk

Order your free 30-day trial CD at www.autodesk.com/connected

LEIPZIGER MESSE NEUES MESSEGELÄNDE: Leipzig, Germany | PRODUCT: Starphire® Glass

ARCHITECT: Von Gerkan, Marg & Partner | OWNER/DEVELOPER: Leipziger Messe Neues Messegelände

LOOKS ARE STILL EVERYTHING.

STARPHIRE® GLASS: A CLEARLY BEAUTIFUL CHOICE.

A building is more than a shelter. It's the expression of your idea in steel, stone and glass. And if yours is a truly brilliant idea, then it deserves the clearer-than-clear, jewel-like brilliance of Starphire® ultra-clear glass.

Without a hint of tint, there is simply no other glass like it in the world. It transmits 91% of the visible light with super high fidelity color transmission that lets the true beauty of the outdoors, the sky – the light – become part of the design. Starphire® ultra-clear glass also can enhance your vision, spandrel, entrance or interior glass applications.

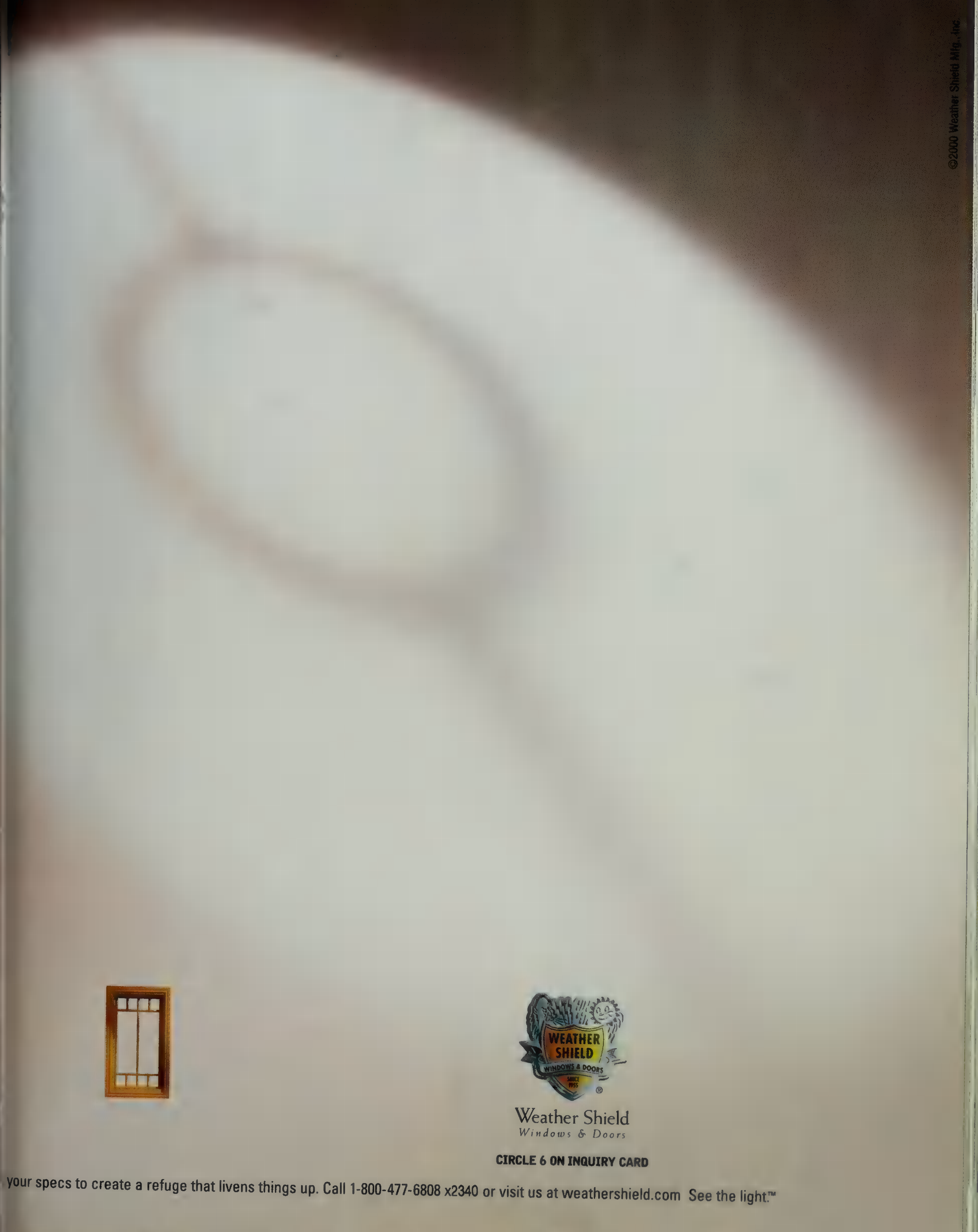
Starphire® ultra-clear glass is just another example of how PPG Architectural Glass uses technology to give you the freedom to create and inspire. Because when it's all said and done, looks are still everything.

To see why Starphire® ultra-clear glass makes ordinary glass green with envy, call the PPG Solutions Hotline today for your Starphire® ultra-clear glass design kit or a glass sample. 1-800-377-5267.

PPG Glass Technology
SINCE 1883

CIRCLE 5 ON INQUIRY CARD

This is your calling. To create an intriguing space. At your mercy are long-lasting windows that go far beyond wood and gl

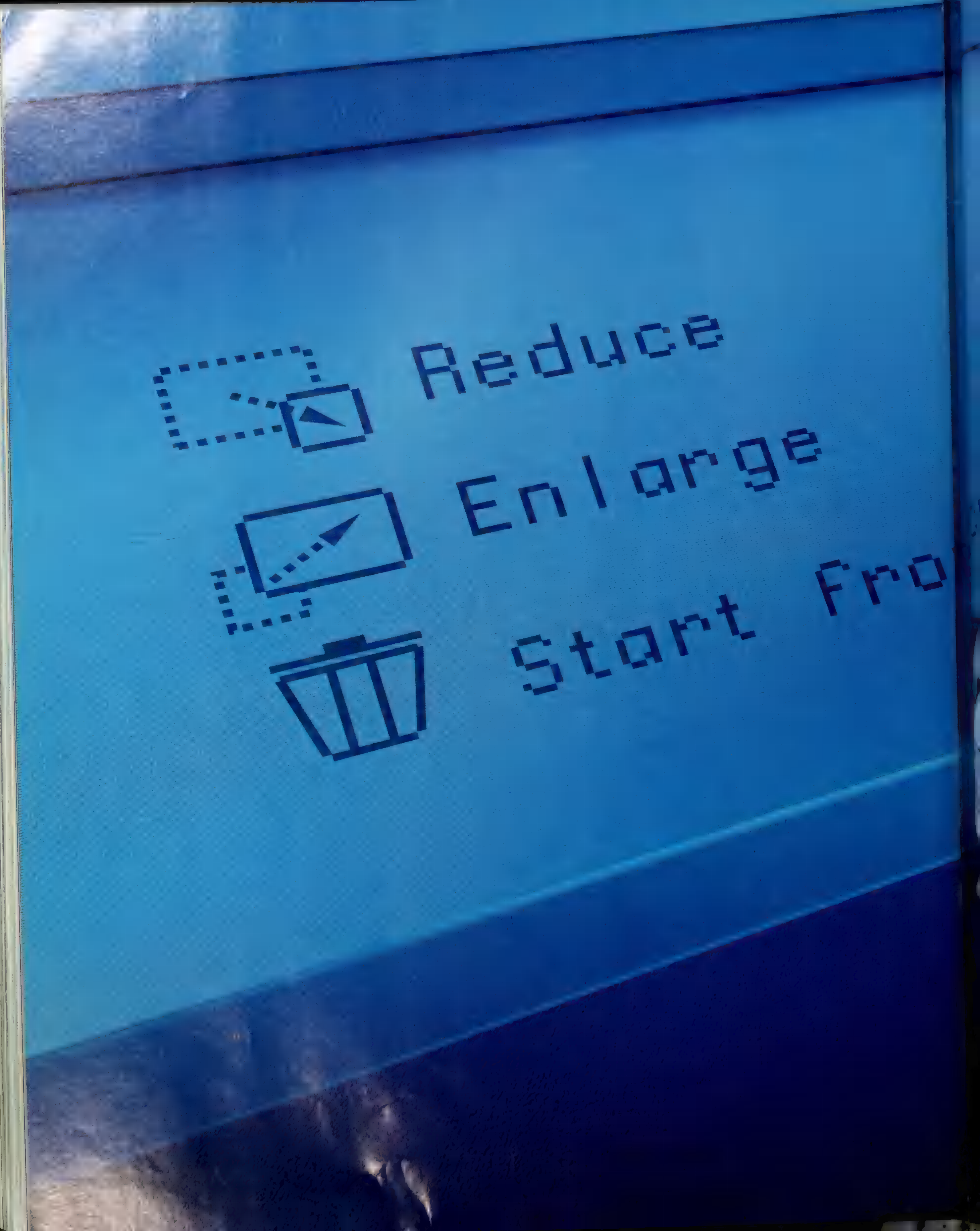


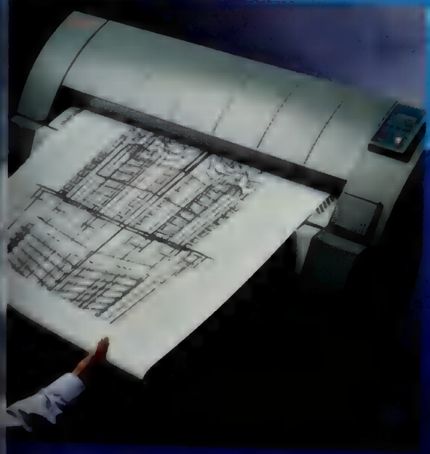
Weather Shield
Windows & Doors

CIRCLE 6 ON INQUIRY CARD

your specs to create a refuge that livens things up. Call 1-800-477-6808 x2340 or visit us at weathershield.com See the light.™

©2000 Weather Shield Mfg., Inc.


Reduce
Enlarge
Start Fro



Print changes almost as fast as your client can make them.

You've got a 20-story building and the client just made 25 changes. Enter Kinko's A to E prints. They're available in a variety of paper stock, including bond and vellum, and output at up to 300 DPI quickly and easily by top-of-the-line printers. They can be printed while you wait, or picked up and delivered within 24 hours. So you can get back to doing what you do best: designing, redesigning and designing again.

Products and services vary by location. All marks appearing are proprietary marks of Kinko's Ventures, Inc. and are used by permission. Kinko's requires written permission from the copyright holder in order to reproduce any copyrighted work. ©2000 Kinko's, Inc. All rights reserved.

PRINT FROM DISK

DIGITAL PRINTING

COMPUTER WORKSTATIONS

ELECTRONIC FILE SUBMISSION

MOUNTING

LAMINATING

BINDING

MANUALS & REPORTS

PRESENTATIONS

HIGH-VOLUME COPIES

FLYERS & BROCHURES

HIGH-SPEED INTERNET ACCESS

SHIPPING SERVICES

PICKUP & DELIVERY

FULL- & SELF-SERVE

LARGE FORMAT PRINTING

kinko's®

www.kinkos.com Open 24 hours

CIRCLE 7 ON INQUIRY CARD

One more way to
build on our knowledge

No Chipping, No Flaking
Ultra 90+™

The only ceiling with a warranty against nicks, scratches, chipping, flaking, punctures and indentations.

There's only one way to produce ceiling panels offering the benefits of **Ultra 90+**. You pour them into a mold and cure them slowly. What comes out is a casting... **smooth** yet too strong to crack, scratch, puncture, chip, flake, or sag even to **90% RH and 104°F.** Look to **Ultra 90+** for Ultra-high light reflectance, a variety of **smart edge details,** and **9 designer colors** that aren't just painted on, but, like stone, the colors go clear through. Enough to deserve a **10-year warranty** for long-lasting beauty. There's nothing out there comparing to Ultra 90+ with the **UltraGuard™ finish.** To learn more, visit our learning center, Celotex Tech, at www.celotex.com, or call 1-800-CELOTEX. "We're the Company You Can Talk To."

Celotex

Build On Our Knowledge™

CEILING TILES / SHINGLES / GYPSUM BOARD / RIGID FOAM INSULATION

CIRCLE 8 ON INQUIRY CARD

© Celotex Corporation, 2/00

When you're talking design flexibility, contempora

appearance and affordability, you're talking

Alucobond® Material.

Created 30 years ago as

the first-ever aluminum

composite material or

ACM, Alucobond Material

has contributed to the

design excellence of more than 50,000 building

worldwide. Alucobond Material's success is du

in part

networ

distributors/fabricators–clearly the best in the in

These partners offer unequaled knowledge and

expertise regarding all aspects of fabricating an

installing aluminum composite material.

And that translates into unequaled benefits for y

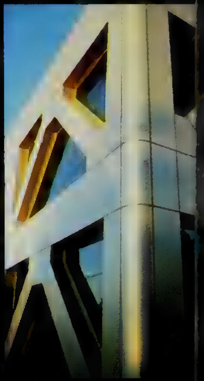
So consider

Alucobond

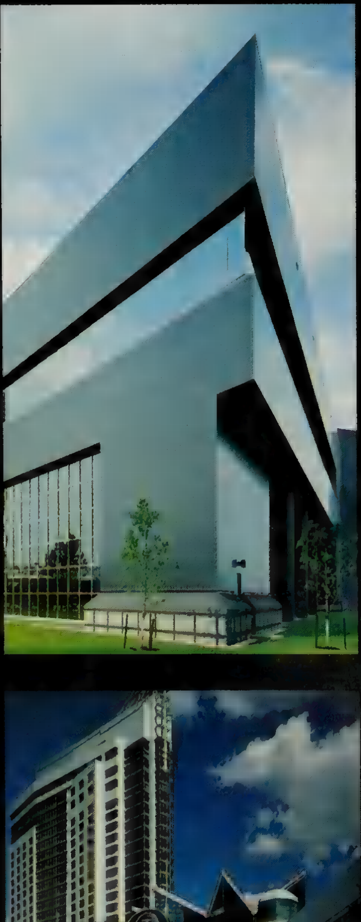
Material for your next design challenge.

You'll experience the confidence that comes on

the best product and people in the industry.



A Panel Discussion



ALUCOBON

alusuisse composites

Alusuisse Composites, Inc.
P.O. Box 507 • 208 W. 5th Street • Benton, KY 42
[illegible] • 270-527-4200 • Fax 270-527-15
www.alusuisse-comp.com

CIRCLE 9 ON INQUIRY CARD

Tempus fugit

Editorial

By Robert Ivy, FAIA

Rhinebeck. Hyde Park. The names conjure up the vast corridor of the Hudson River, America's Rhine, once lined with the prideful chateaus of our native aristocracy. Two houses, perched on the high luff dropping to the waterway, have tales to tell and provoke questions about where, how, and why we build.

History permeates the first house, Springwood, Franklin Roosevelt's eloved homeplace at Hyde Park. Filled with personal memorabilia, furishings, and fabrics, this iconic house is redolent with the odors and textures f real life. We can imagine the visiting George VI and Queen Elizabeth erched on the parlor chairs, waiting for their famous picnic luncheon; or ara Delano Roosevelt, the matriarch, retiring to her bedroom so near her on Franklin, in what appears to us to be claustrophobic proximity. No wonder Eleanor treasured the privacy of Val-Kill cottage. History springs to life hrough visiting the physical artifacts.

Just down the road, the 50-room Frederick Vanderbilt mansion ears up with concentrated power. Designed by McKim, Mead and White, set n a magnificent Olmsted park, this proud palace designed for the head of the New York Central Railroad sums up its moment, 1898, with supreme confience. Imported marble, bronze fittings, and carved woods all contribute to he air of voluptuous luxe in a house for a family of two persons that cost 660,000 at the time—a princely sum for a prince of commerce.

Although both Springwood and the Vanderbilt mansion at Hyde ark share certain symmetrical, formal characteristics, the two diverge in dical ways. The Roosevelt home began life as an 1867 farmhouse that volved in the traditional American manner. First, FDR's father, James oosevelt, enclosed and enlarged the residence; in 1915, the future President nd his mother added wings for servants and himself, raised the roof for his owing brood of children, and lent a Georgian air to the place. Beneath the parent grandeur, however, lies the rambling, simpler framework.

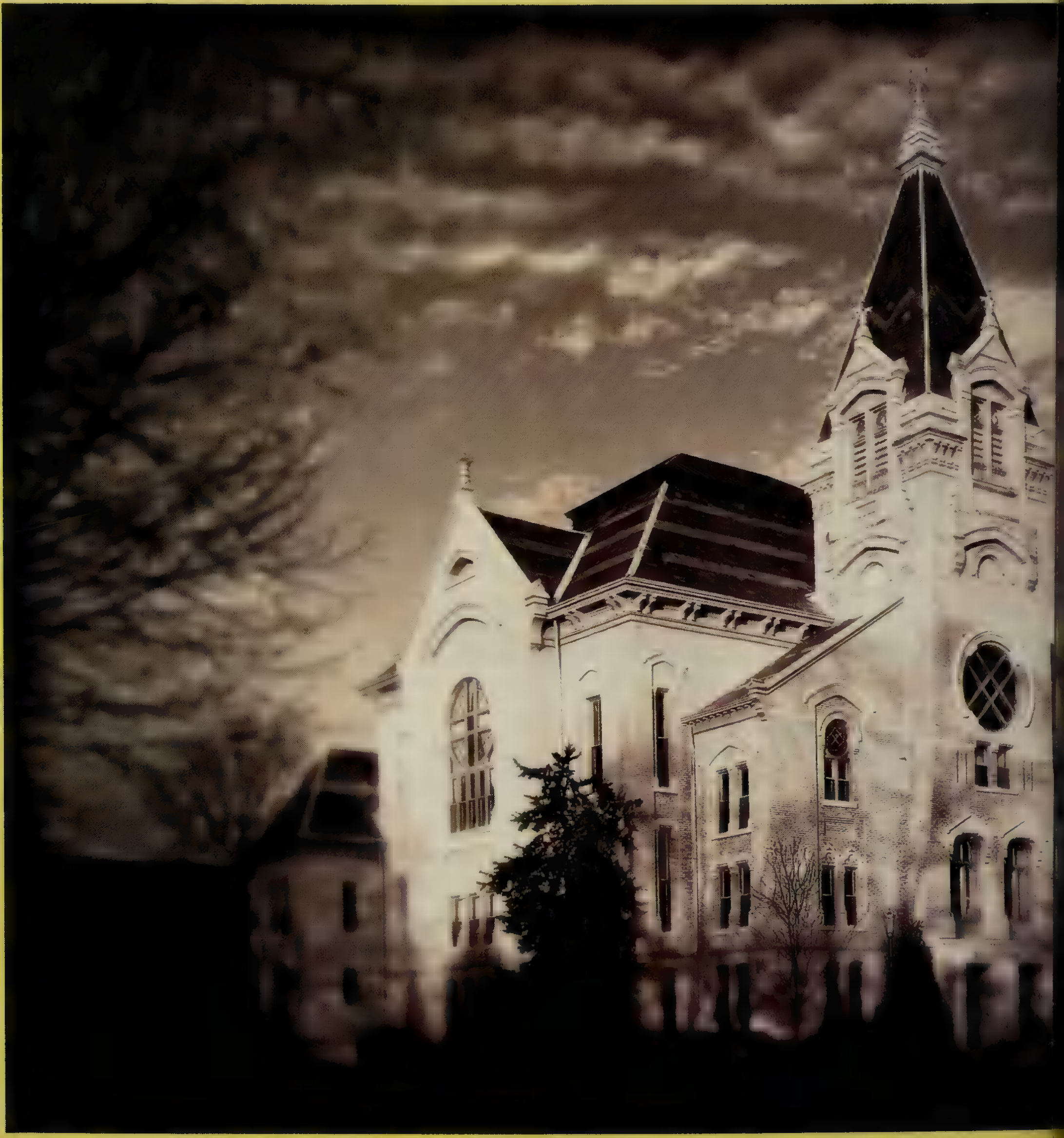
The Vanderbilt place, by contrast, could sport a coronet. A megause, it was built at one quick leap, furnished with Stanford White's help in the prevailing taste of the time (Savonnerie carpets, gilt, and green marble), and occupied only part of the year. Its contemporary kin are the sprawling mcmansions we architects are designing where the weather is cool and the bugs don't bite—in Aspen or the Hamptons.

Yet the Vanderbilt house, for all its grandeur, seems tomblike, its rooms as still and vacant as Versailles. Why? The family that resided there, and the social and economic system that supported them, has vanished; Mrs. Astor's Four Hundred have traded in their ballgowns for blue jeans. Tempus fugit. Unlike Springwood, this hermetic structure could not easily be transformed to other purposes. Ultimately, the Vanderbilts' heir, Margaret Van Alen, donated the house to the government. No one could think of another purpose for such a massive relic.

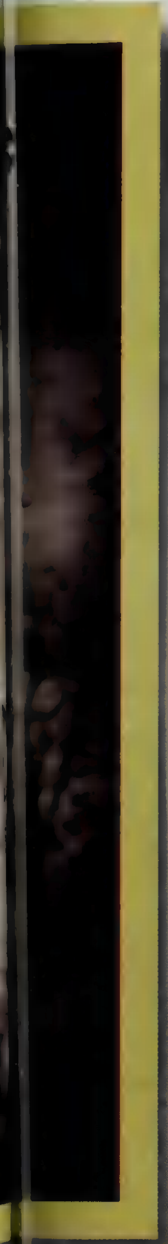
While we are drawn to the masterful siting at Vanderbilt, and the evocative vistas of lawn and brook, the finesse of its details, and the craft and "taste" displayed, contemporary perspective inevitably colors our perception. Viewed through the lens of our democratic culture, it is difficult to imagine the ponderous, labor-intensive civilization that required legions of servants and a concentrated, studied hierarchy. A building that represented the height of what Edith Wharton and Ogden Codman, Jr., called "the demand for style" seems cool to the touch.

There is no moral implied here, no assertion of right or wrong. Hovering like summer smoke around this upriver idyll are only questions, but ones that can be asked by architects repeatedly, for all kinds of design. For whom are you building? For what purpose? What longevity do you foresee for this structure? How does this design relate to the present moment? To the landscape? Can it, or should it, be capable of transformation and change? Does this house, or this project, have a future? What will be its legacy?

Robert Ivy



Washington Hall, center stage for theatre and cultural events at Notre
Built in 1881, this modern Gothic structure was named by Father Sor
himself, Notre Dame's founder, in honor of his great hero, George Washin



You've got to be good to go into Notre Dame and leave with a victory.

When the University of Notre Dame decided to replace the windows in two of the more historic buildings on its storied campus, all the major manufacturers wanted the job. But as they learned more about the size and scope of the project, the list began to dwindle. Since both buildings are on the National Register of Historic Places, Notre Dame wanted windows with wood interiors that matched the appearance and profile of the originals. To minimize maintenance, another demand was aluminum clad exteriors. Marvin Windows and Doors emerged victorious. And designed and built 310 windows for the project, not one of which was a standard size. Not only that, but the casings were factory applied and a custom color for the exterior cladding was developed to replicate the 100 year-old originals. If you have a challenging commercial project, contact the company that has a reputation for winning the tough ones.

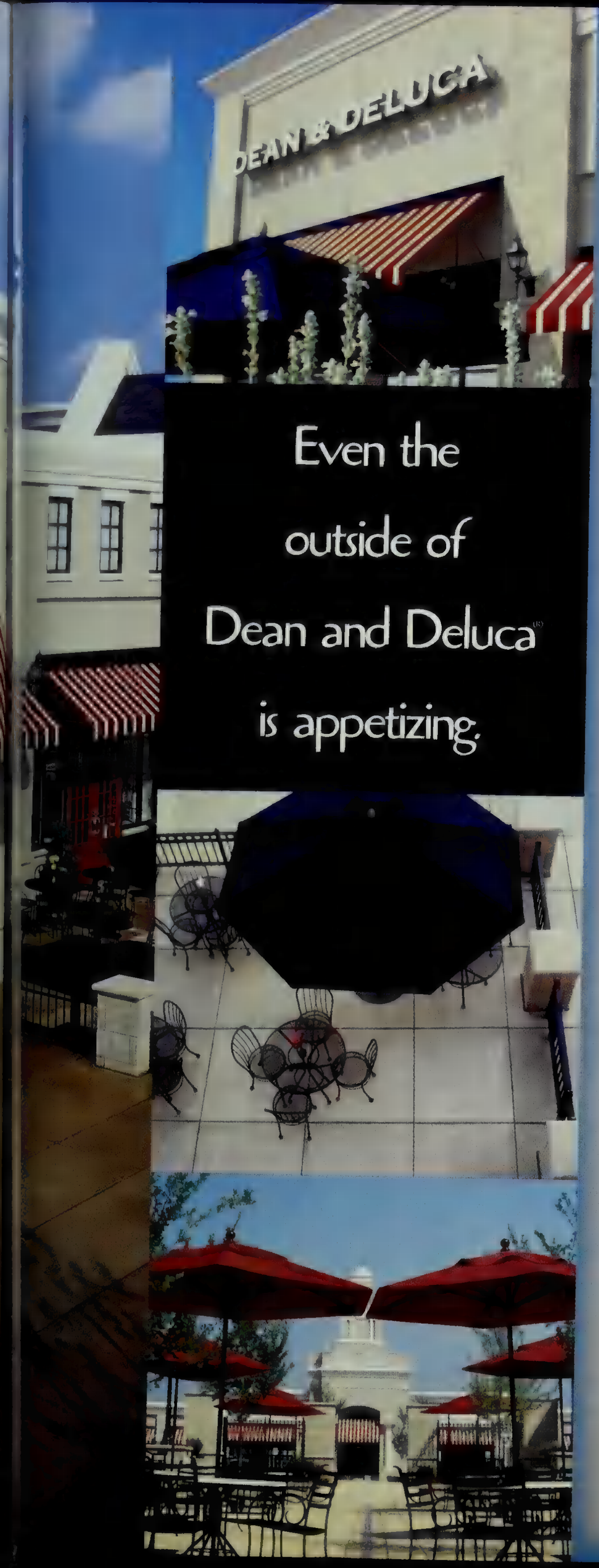
The wood interiors of Marvin's windows are virtually identical to those installed a century ago. For the exterior aluminum cladding, an appropriately-named custom color was created: Irish Bronze.

MARVIN
Windows and Doors
Made for you.

For a free catalog, call 1-800-236-9690. In Canada, 1-800-263-6161 www.marvin.com

CIRCLE 10 ON INQUIRY CARD

[illegible]brella Firesist and [illegible] are registered trademarks of Glen Raven Mills, Inc. • SEF[illegible] is a trademark of Solutia. Dean & Deluca® [illegible] registered trademark and is used with permission. Awning fabrication by Plastex, Charlotte, NC. • www.sunbrella.com



Even the outside of Dean and Deluca® is appetizing.

Before you smell the aroma, before you taste the food, before you walk through the door, you get a sense of the wonderful experience that awaits. The culinary masters at Dean & Deluca® even know how to whet your appetite with architectural design. By blending the beauty of Sunbrella Firesist® modacrylic fabric with the building's European style, they've created a true gourmet presentation.

But presentation is only part of the recipe. Choosing the finest ingredients for building design is vital. That's why Sunbrella Firesist was the obvious choice. Superior flame retardancy is inherent in the fabric, instead of just applied to the surface. In fact, it's woven from SEF+™ self-extinguishing modacrylic fibers. So it meets the strictest fire codes. Sunbrella Firesist fabric also resists fading from sun and rain, because our solution-dyed colors are locked-in. That keeps it looking fresh for years. In fact, we offer a five-year limited warranty. Sunbrella Firesist even makes the inside of Dean & Deluca more appealing. Our breathable awning fabric doesn't trap heat or moisture, which reduces air conditioning costs and keeps patrons comfortable.

When you design your next gourmet masterpiece, choose Sunbrella Firesist. We have more than 25 styles and colors to choose from. So you can find something that suits your personal taste.

Check the Yellow Pages under "Awnings and Canopies" for the awning dealer near you. Or contact Glen Raven Custom Fabrics, LLC, Glen Raven, NC 27217.

sunbrella firesist®

GLEN RAVEN MILLS, INC.

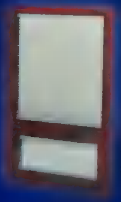
CIRCLE 11 ON INQUIRY CARD

THE KAWNEER WIND

ROM EXPERIENCE COMES ILLUMINATION.

xperience isn't just measured in years. It's also gauged by performance. Quality. Flexibility. And the passion to continually raise the bar. hese are the qualities that define the Kawneer window.

Our patented IsoLock® thermal break uses Kawneer's exclusive lanced pour and debridge process to combine energy savings with structural integrity. An advanced vent and frame design retards air and water infiltration. A wide palette of protective coatings and painted finishes combines beauty with lasting durability. And our tradition of close collaboration early in the design stage assures a successful marriage of form with function for architects and building owners alike. The Kawneer window. Let our experience bring your brightest ideas to life.



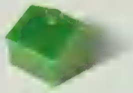
For architectural product applications and technical assistance, contact our architectural services team toll free at [illegible]

Kawneer

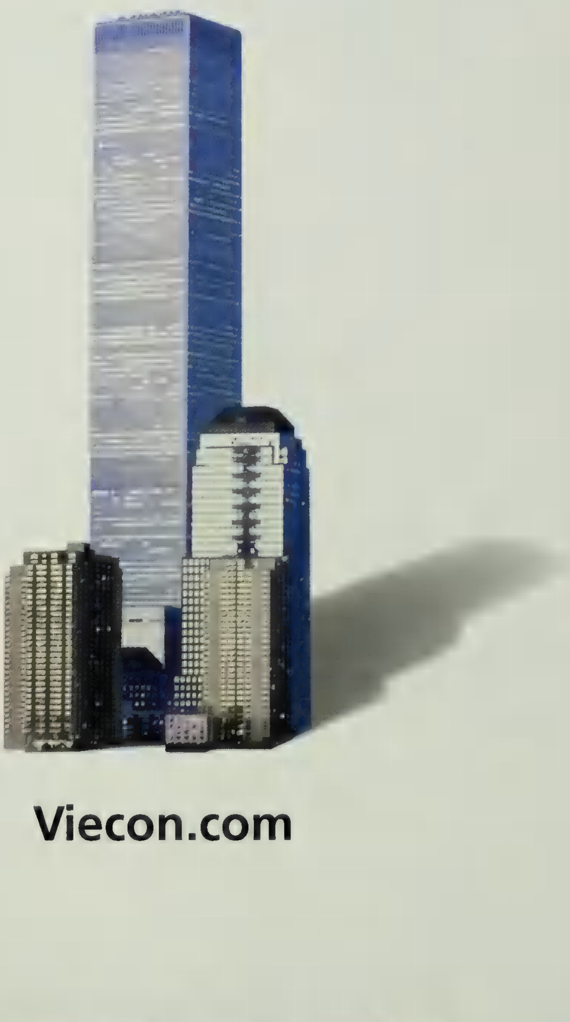
The Mark of Responsibility

CIRCLE 13 ON INQUIRY CARD

© [illegible] Company, Inc. – [illegible] Atlanta [illegible] Norcross, [illegible] 770.449.5555 [illegible]



.com on



Viecon.com

Introducing the only Internet solution with the power to declare victory for the $4.1 Trillion E/C/O economy. Shout it from the rooftops. V-day has arrived. Victory over every major construction project. For every design/build firm. Every owner/operator. Viecon-powered networks are revolutionizing creation, collaboration and commerce. Driving out massive inefficiencies in the Engineering, Construction and Operations of your long-term assets. The dot.coms are powerless. With Viecon, victory is yours.

viecon.co
by Bentley

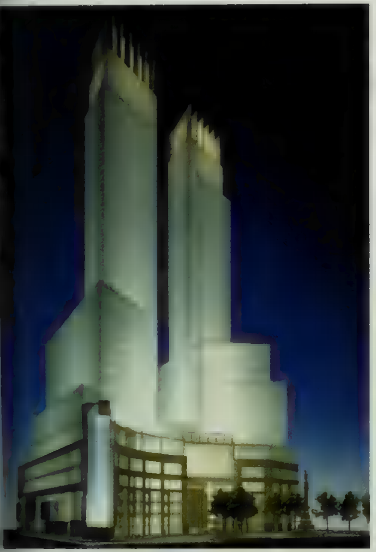
CIRCLE 14 ON INQUIRY

Bentley is a registered trademark and Viecon is a trademark of Bentley Systems, Incorporated or Bentley Software, Inc. © 2000 Bentley Systems, Incorporated

Record News

Bulletin Millennium Bridge vibrates, closes p.28
Hejduk, Miralles die p.32
Jefferson Library to house presidential papers p.38
Libeskind gets Denver job p.40

NE MORE TRY: SOM'S COLUMBUS CENTER SCHEME ESS BOXY, LESS DECO, MORE TRANSPARENT


M's latest design for Columbus Center

The latest scheme for the $1.7 billion Columbus Center project in New York City was unveiled June 28. Mayor Rudolph Guiliani, who spoke at the unveiling, says after seeing this design he "liked it immediately."

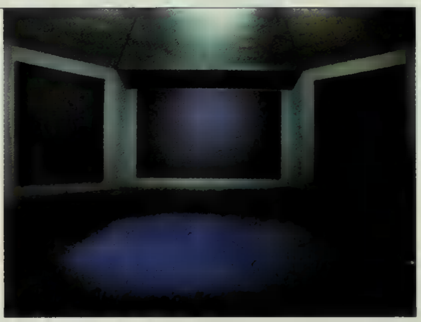
Columbus Center, designed by Skidmore, Owings & Merrill (SOM), will be a 2.7-million-square-foot complex on Columbus Circle at the southwest corner of Central Park. Columbus Center's latest plan includes two 55-story trapezoidal towers atop a seven-story base that curves along the traffic circle. The program will include space for AOL Time Warner headquarters, studios for CNN, the home of Jazz at Lincoln Center, more than 500,000 square feet of retail, a five-star mandarin Oriental Hotel, and 200 condominiums.

The complex, which remains subject to design review by the City Planning Commission through the design-development stage, is scheduled for completion in 2003. David Childs, FAIA, principal at SOM in New York, says the myriad factors in this high-profile project did not dilute the final design. "It's one of those wonderfully complicated urban problems today," Childs says. "This one, by far, is the most complicated that I've been part of. It's a testament to the creativity and perseverance of many people."

Within the SOM-designed building, different architects will handle specific components: Rafael Viñoly is the architect for Jazz at Lincoln Center, Brennan Beer Gorman is designing the hotel, Elkus/Manfredi will complete the retail space, and HLW International is the architect for AOL Time Warner. A metal-and-glass screen on the top floors of the building's base by artist Jamie Carpenter will allow layers of transparency for the Jazz at Lincoln Center theater space.

This is the fifth plan for the site. Earlier schemes date back to Moshe Safdie's 1985 set of prism towers, which met with public backlash. SOM's subsequent designs—a 1988 proposal similar to 1930s apartment towers and a 1998 Art Deco–inspired complex—were considered too retro. Earlier this year, SOM released a version with boxy towers parallel to the street.
John E. Czarnecki, ASSOC. AIA

RT AND SPIRITUALITY CONVERGE IN RESTORED ROTHKO CHAPEL


Inside the Rothko Chapel

e Rothko Chapel, where art and
irituality converge in uniquely
odern ways, reopened June 17
ter an 18-month, $1.8 million
storation.

The chapel, commissioned by
hn and Dominique de Menil, was
signed by Philip Johnson and
mpleted in 1971 by Howard
rnstone and Eugene Aubry after
hnson and the artist had a bitter
ling out. "The great architect
wed out to the great artist," was
minique de Menil's tactful
scription of the split.

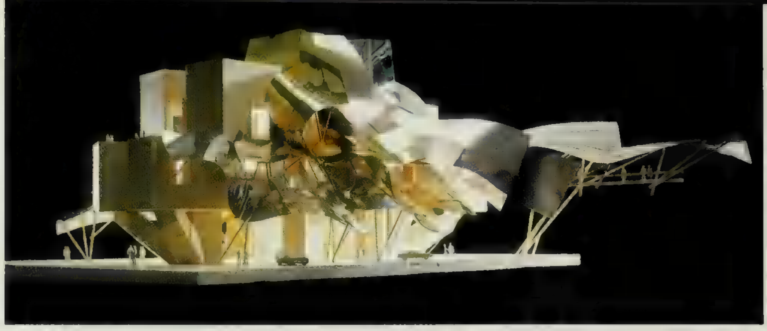
A windowless brick octagon
h a central skylight, the Rothko Chapel exudes a remarkable serenity that seems to come from deep inside the paintings. Mark Rothko's dark, monumental paintings, created specifically for the building, were removed and sent to conservators while their intimate but increasingly unstable setting was repaired. The paintings' muted surfaces offer no explosion of color and line, no religious imagery, no obvious narrative—nothing except a somber stillness that expresses Rothko's search for order and unity in his art and life.

Rothko died in 1970. In the years that followed, the sodden Houston climate took its toll on his chapel. The roof leaked, exterior walls began to crack and slump, and humidity and ultraviolet light damaged the paintings. The remarkable Rothko legacy would be lost if a restoration effort were not undertaken.

Under the direction of Houston architect James McReynolds and Ove Arup & Partners of London, engineers for the nearby Menil Collection and Cy Twombly Gallery, the problems have been corrected. New concrete piers were driven 55 feet into the ground to stabilize the chapel. A new skylight, with a smaller, snugger baffle, provides softer and more even light for the paintings, which now hang on gray gypsum walls that simulate raw concrete. The ceiling was lowered several feet, and exterior doors were enlarged so that the large paintings could be transported in and out easily. Previously, they had to be hoisted by crane through the central skylight. The foyer has been enclosed by glass partitions that funnel moisture into a new ventilation system, rather than allowing it to flow freely across the paintings.

The physical changes are subtle and leave the serenity of the chapel undisturbed. As one perceptive visitor noted, the Rothko Chapel, "is a place not to think but to unthink." *David Dillon*

W *Can't wait until the*
tember issue for architectural
vs? For up-to-date headlines each
kday, click on **News**
ww.architecturalrecord.com



Drink up. The Marques de Riscal Winery in Elciego, Spain, by Frank Gehry.

WINERIES IN SPAIN AND CANADA TO BE VINTAGE GEHRY

Elciego, in the Rioja region of Spain, is bound to become a destination for architects visiting the Guggenheim Museum in nearby Bilbao.

The first winery by Frank O. Gehry, FAIA, the Marques de Riscal Winery, will be completed in Elciego in 2003. The 35,520-square-foot building will house a conference facility, restaurant, exhibit space, a wine-tasting room, and guest rooms for visitors. Materials will include Spanish stone, glass, and double-sided titanium panels of silver, gold, and rosy pink. The building will not include wine-making facilities, which already exist at the vineyard. Gehry may be commissioned to design a second small building for additional guest rooms.

Gehry's second winery will be his first completed building in his home country, Canada. Currently in the initial design stages, the winery for Le Clos Jordan will be built in the Niagara Peninsula region of southern Ontario, near Niagara Falls. The Gehry design will include full wine-making facilities.

Le Clos Jordan is a Franco-Canadian partnership between Boisset, La Famille des Grands Vins of France, and Vincor International of Ontario. The first Le Clos Jordan vintage is expected in 2005.

"We look forward t his interpretation of a new age winery inspire by wine-making traditions of many centuries says Jean-Charles Boisset, vice president of Boisset. "Having a great visionary participate in the planning of our *domaine* is an extraordinary opportunity."

Gehry says of the Canadian winemakers, "I am extremely impressed with my clients' passion for their product, and their desire f the very best in quality."

Gehry, a native of Toronto, moved to Los Angeles in 1947. *JE*

MIND THE BRIDGE, PLEASE BREAK STEP

The Millennium Bridge, the highly anticipated London footbridge over the Thames, opened to great fanfare, vibrated uncomfortably, and was closed the same weekend. While steps will be taken to absorb reverberation, a reopening date has not been set.

Designed by Foster and Partners with engineers Ove Arup and Associates, the $28 million, 1,050-foot-long bridge crosses the Thames at the new Tate Museum of Modern Art. On its June 10 opening, pedestrians felt the aluminum-and-steel bridge sway and bounce. Officials closed the bridge June 12, after more than 150,000 people crossed it that first weekend. Both Arup and Foster offices confirmed the reopening is months, not weeks, away.

The *Times* of London reported that, due to construction delays, there was not time to test the bridge before opening, except in simulated wind tunnel tests. Final sections of the bridge deck were placed only five days before opening.

Engineers determined that pedestrians increasingly walking in step, a phenomenon called synchronized resonance, made the bridge wobble. As motion increased, pedestrians instinctively walked in step with the movement to keep balance, increasing the lateral sway.

According to Arup's office, tests are being conducted to re-create the June 10 conditions in two ways. First, groups are walking in step across the bridge to replicate the movement. Second, a machine called a grandstand shaker that tests the impact of stadium crowds is being used to determine the exact impact of various forces and loads. Once tests are completed, dampers, which act as shock absorbers, will likely be installed, according to Arup's office.

The Millennium Bridge is not the first British millennium project to have problems. The London Eye ferris wheel closed New Year's Eve when it jammed. A June 13 letter to the *Times* asked, "Sir, Has anything designed to celebrate the year 2000 worked properly yet?" *JEC*

AIA SUBMITS COMMENTS ON ADA REVISIONS Requirements of the Americans with Disabilities Act (ADA) of 1990 and the Architectural Barriers Act (ABA) of 1968 may gain greater clarity, but the process will take some time.

The American Institute of Architects (AIA) was one of more than 2,500 entities that submitted comments to the Access Board on the proposed updated facility guidelines under the ADA and ABA. The guidelines, published in November 1999, were open to public comment through May 15, 2000, and cover only new construction and alterations.

The ADA Accessibility Guidelines (ADAAG) cover construction in the private and public sectors. ABA guidelines apply to buildings owned by the federal government or those receiving federal funds. Guidelines will be updated to achieve greater clarity and reflect technological advances in the built environment.

The Access Board, an independent federal agency responsible for built environment accessibility guidelines under the ADA and ABA, is analyzing all comments and revising the regulatory assessment based on the comments. The revised guidelines will be submitted to the Office of Management and Budget (OMB) for review and clearance, likely in late 2001. Final guidelines will be published in the Federal Register when cleared by OMB. The U.S. Departments of Justice and Transportation maintain standards for facilities under the ADA and must adopt the updated requirements to make them enforceable.

While the AIA's 59 pages of comments are comprehensive and thorough, three-fourths of the comments received at the Access Board were from individuals. Comments from trade and professional organization constituted only nine percent of the total.

In June, a statement from the AIA called for "greater clarity and certainty" from the Justice Department in enforcing existing ADA requirements. The National Council of Disability issued a report that same month calling federal enforcement agencies "overly cautious, reactive, and lacking any coherent and unifying national strategy."

Visit www.e-architect.com/gov/ada/ to read the full text of the AIA comments and www.access-board.gov for more information. *JEC*

The right door can make any place more inviting.

ow, think what our custom doors could do for your home. A door with no boundaries, save those of ur imagination. A door handcrafted in the Old World style from the most beautiful hard woods available: enuine Mahogany, Cherry, Maple, Walnut and Northern Red Oak. International Wood Products n deliver this door. All the way from your mind straight to your dream home. 1-800-877-9482 ext. IWP2 www.iwpdoor.com

IWP®
Part of the JELD-WEN family

of JELD-WEN, inc., Klamath Falls, OR

CIRCLE 15 ON INQUIRY CARD

CONSTRUCTION BEGINS ON JAPAN'S LARGEST PRIVATE DEVELOPMENT

Construction began in April for Tokyo's Roppongi Hills, Japan's largest private development project ever. Occupying a 27-acre site at the edge of one of the city's most popular entertainment districts, the estimated $2.5 billion project is being built by Tokyo developer Mori Building Company. When completed in spring 2003, the new construction is expected to transform a quiet residential neighborhood into a gleaming new urban center.

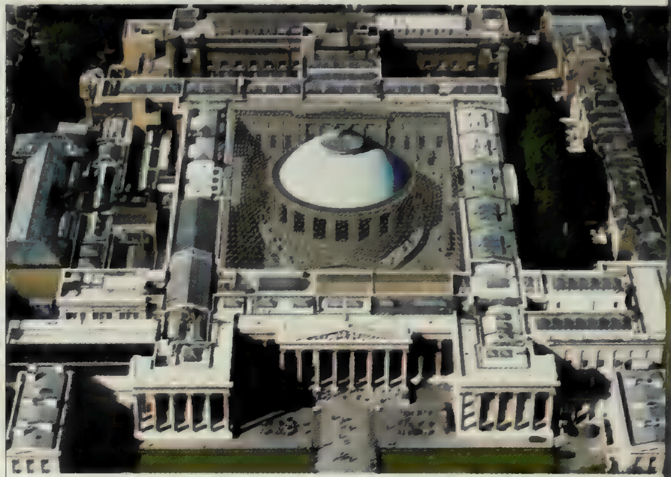
Roppongi Hills development (above) includes a 54-story curvilinear tower by KPF and Fumihiko Maki's TV Asahi Broadcasting Center (top).

The project will be divided into three zones. Facing Roppongi Street, a major pedestrian and vehicular artery, and linked to subway lines, Zone A will comprise the development's main entrance and include a shop-lined station plaza. Dominated by a 54-story curvilinear office tower, Zone B will be the heart of Roppongi Hills. Kohn Pedersen Fox Associates PC are design consultants for the office building. The five-story Mori Art Center, on top of the office tower, will house galleries, educational facilities, a restaurant, and an observation deck overlooking the city. Gluckman Mayner Architects is the design consultant for the art center, which will have its own transparent, conical entry pavilion on the ground floor connecting directly to the main exhibition space via bridges with elevators. In addition to a hotel and theater, Zone B also will include TV Asahi's Broadcasting Center designed by Fumihiko Maki. The glass-enclosed, eight-story building will house studios at its core and offices on its perimeter.

Zone C, the development's residential component, will include four apartment buildings of a total of 840 units for approximately 2,000 people, ranging from studios to four-bedroom units. Commercial spaces on the ground floor of all buildings will be designed by the Jerde Partnership International.

A multilevel circulation system spanning the site's 55-foot change in elevation will also tie the zones together. While automobile traffic within Roppongi Hills will be limited, a network of pedestrian walkways will wind through the site, incorporating a skylit galleria, public parks, and other open areas as well as the reconstructed Mouri estate pond and garden that had once occupied a portion of the site. The newly constructed Main Street, lined with shops and punctuated by three courtyards, will link the development to the surrounding neighborhood. The rerouting of existing roads and underground parking for 2,500 cars will ease site access and improve driving conditions in the surrounding area.

Though this project will raise the neighborhood's population density, Minoru Mori of Mori Building Company expects it to reduce commutes and increase quality of living with more open space and public amenities. *Naomi Pollock,* AIA



FOSTER'S GREAT COURT AT BRITISH MUSEUM NEAR COMPLETION

The Great Court project for London's British Museum by Foster and Partners will open this December. The $150 million project will provide some much-needed breathing room for the museum's 6.5 million annual visitors. It will also update the institution's educational and public-amenity needs.

The building is signature Norman Foster in a number of ways. First, the new roof covering the court consists of 65,500 square feet of glass supported by four miles of steel. Also, the project has a strong civic aspiration and will increase the museum's public space by approximately 50 percent. The solution is seductively simple—one can imagine the initial sketches emerging on a paper napkin.

The scheme reinstates the original court, built in 1852 but thereafter occupied by various storage requirements of the British Library. The departure of the library to its new St. Pancras building designed by Colin St. John Wilson freed the space for redevelopment.

Clearing away the clutter from the court reveals the circular shape of the British Museum's Reading Room. Now a pair of staircases encircle the Reading Room, leading to an elliptical mezzanine level. A Millennium Gallery, as well as bookshops, restaurants, and cafes will be on the mezzanine.

The British Museum's Great Court will be under a glass enclosure around the circular Reading Room.

A lower level will include an education center with new gallerie for ethnography and two auditoria one seating 350 and the other 15

The Great Court will be open t the public for extended hours, creating a major new public space in London. It will be part of a new heritage route through the city extendi from St. Pancras to the South Bank

The high-tech roof assures us that the museum has sought something that is clearly representative o our era. As cutting-edge as the approach may be, it almost literally preserves the character of what wa already there, including the museum's ionic portico entrance. The British Museum has opted to add an esse tially transparent layer to its buildin history. *Laura Iloniemi*

"Beautiful buildings are...
works of art using the
best technology."

Frank Lloyd Wright

Bidcom.
Build Better.

www.bidcom.com

Bidcom, Inc. helps companies manage risk, improve profitability and complete building projects on time. Bidcom's Suite of e-Business Services are delivered through a comprehensive, integrated online environment that allows building industry professionals to communicate and collaborate, manage business processes, conduct e-commerce and access valuable industry content. Bidcom's easy-to-use services support all participants throughout the complete lifecycle of multiple building projects, including: owners and real estate developers; architects and design professionals; general contractors and sub-contractors; and facilities managers.

© 2000. All rights reserved. Bidcom and the Bidcom logo are trademarks of Bidcom, Inc.

CIRCLE 16 ON INQUIRY CARD

NOTED ARCHITECTS, AUTHOR REMEMBERED

The recent deaths of individuals at the forefront of architectural practice, education, and theory will be felt worldwide.

Enric Miralles

Spanish architect Enric Miralles died on July 3 at age 45. He was diagnosed with a brain tumor last March and was recovering from surgery in the Barcelona resort Sant Feliu de Codines when he died. Miralles acquired an international reputation at an early age for his work, which broke with the generally understated tone of Spanish architecture to introduce a highly personal and complex formal vocabulary.

Miralles

In a tribute published in the Spanish national newspaper *El País*, former teacher Rafael Moneo wrote, "His architectonic world was vibrant and intense, agitated, and exuberant. His works speak eloquently of his personal generosity, in their continuous scattering of elements, recognizing no limits or frontiers."

Mexican architect Enrique Norten said of Miralles: "He was a great man, a good and loyal friend, and a wonderful architect."

Miralles was working on his first international commissions this year, including the Utrecht Town Hall in the Netherlands and the Scottish Parliament in Edinburgh, both under construction, and the Venice School of Architecture. Among his best-known works are the Archery Range for the 1992 Barcelona Olympics [August 1992, page 98], the National Gymnastics Center in Alicante, Spain [August 1994, page 52], and the Morella Boarding School.

Miralles graduated from the Barcelona School of Architecture and received a doctoral degree from Columbia. He apprenticed in the studio of Albert Viaplana and Helio Piñón, and had a role in that studio's design of the 1983 Plaza at Sants, a seminal work in Barcelona's urban revival. Miralles was buried in one of his most celebrated works, the 1995 Igualada Cemetery outside Barcelona, where the precast walls of niches, scattered across a hillside, merge into the landscape. *David Cohn*

Christian Norberg-Schulz

Norberg-Schulz

An important architectural theorist who helped define the phenomenon of place, Norwegian Christian Norberg-Schulz died on March 28 at age 73. Although he died months ago, the loss of this influential thinker had yet to be reported widely in the architectural press.

Norberg-Schulz published more than 30 books, translated into several languages. He was editor of the Norwegian architecture journal *Byggekunst* from 1963 to 1978, and co-director of *Lotus International.*

An expert in the European Modern Movement, Norberg-Schulz had a distinguished teaching career as professor of architecture and dean at the Oslo School of Architecture. His seminal 1963 book *Intentions in Architecture* sought "meaning" in architecture by implementing linguistics, Gestalt psychology, and phenomenology. This comprehensive theory elevated his status as an architectural theoretician. Norberg-Schulz was an honorary fellow of the Royal Institute of British Architects and a recipient of the Gold Medal of the Académie d'Architecture.

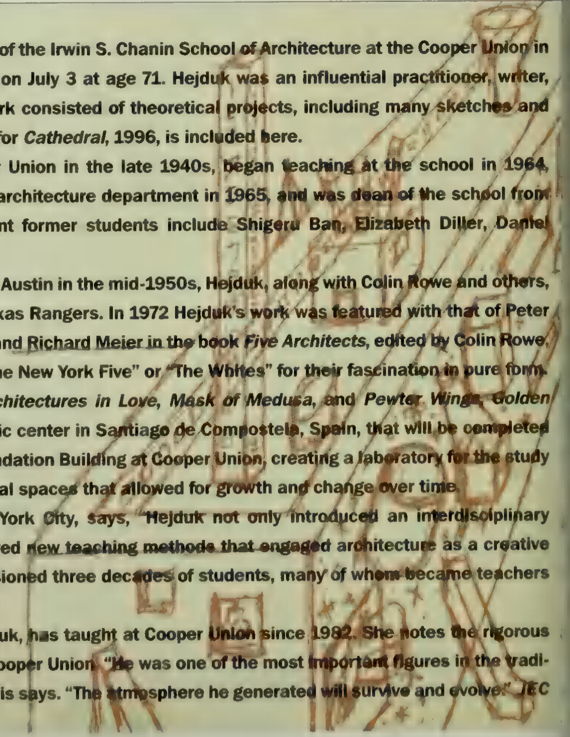
"Christian will stand as one of the foremost authors on architecture of the 20th century. He was an authentic architectural philosopher and a giant in his field," says Peter Pran, AIA, design principal with NBBJ in Seattle and a friend of Norberg-Schulz for more than 30 years. "He gave architecture a language." *JEC*

Louis E. Fry, Sr., FAIA

A practitioner and educator who was instrumental in training many African-American architects, Louis E. Fry, Sr., FAIA, died June 10 at age 97. A practicing architect in Washington, D.C., Fry was a founding member of the National Organization of Minority Architects and former chair of architecture departments at Tuskegee and Lincoln Universities. As the first architecture professor at Tuskegee, Fry initiated the architecture curriculum there in 1935. In association with Paul Rudolph, Fry designed the Tuskegee Chapel at Tuskegee University. A professor at Howard from 1947 to 1972, he designed the university's Douglass Hall and Founder's Library.

Fry

He earned an M.Arc from the Harvard Graduat School of Design (GSD) in 1945. The GSD held a dinner in his honor, planned before his death, at the National Building Museum in Washington, D.C. on June 16. The dinner was a kickoff for a campaign to raise minority student scholarship funds at the GSD. *JEC*



JOHN HEJDUK, former dean of the Irwin S. Chanin School of Architecture at the Cooper Union in New York City, died of cancer on July 3 at age 71. Hejduk was an influential practitioner, writer, and educator. Much of his work consisted of theoretical projects, including many sketches and personal narratives. A sketch for *Cathedral*, 1996, is included here.

Hejduk attended Cooper Union in the late 1940s, began teaching at the school in 1964, became chair of the school's architecture department in 1965, and was dean of the school from 1975 until his retirement this spring. Prominent former students include Shigeru Ban, Elizabeth Diller, Daniel Libeskind, and Toshiko Mori.

While teaching at the University of Texas at Austin in the mid-1950s, Hejduk, along with Colin Rowe and others, was part of the educator group known as the Texas Rangers. In 1972 Hejduk's work was featured with that of Peter Eisenman, Michael Graves, Charles Gwathmey, and Richard Meier in the book *Five Architects*, edited by Colin Rowe, and the five became known at that period as "The New York Five" or "The Whites" for their fascination in pure form.

Hejduk published 21 books, including *Architectures in Love, Mask of Medusa*, and *Pewter Wings, Golden Horns, Stone Veils.* His built work includes a civic center in Santiago de Compostela, Spain, that will be completed this year. His redesign for the interior of the Foundation Building at Cooper Union, creating a laboratory for the study of architecture, produced a number of transitional spaces that allowed for growth and change over time.

Diller, partner of Diller+Scofidio in New York City, says, "Hejduk not only introduced an interdisciplinary approach to architectural education, he pioneered new teaching methods that engaged architecture as a creative and intellectual endeavor. His pedagogy impassioned three decades of students, many of whom became teachers who proceeded to disseminate his approach."

Diane Lewis, also a former student of Hejduk, has taught at Cooper Union since 1982. She notes the rigorous architectural dialogue that Hejduk nurtured at Cooper Union. "He was one of the most important figures in the tradition of intellectual freedom in New York City," Lewis says. "The atmosphere he generated will survive and evolve." *JEC*

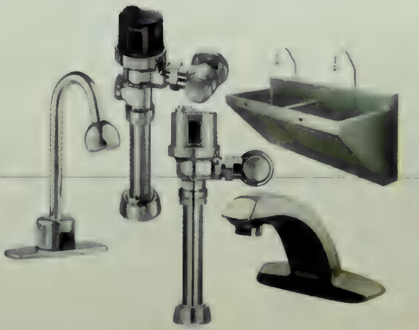
WHY METREON–A SONY ENTERTAINMENT CENTER RELIES ON SLOAN FLUSHOMETERS AND FAUCETS

The recently opened METREON–A SONY ENTERTAINMENT CENTER chose Sloan Optima® Plus Flushometers that integrate electronics and time-tested hydromechanics. For example, Sloan's Perfect Sense® EL-1500 Optima sensor utilizes advanced electronics that adjust automatically to surroundings. Sloan Optima Flushometers have their own LED diagnostics. The Optima system automatically flushes after 24 hours of non-use assuring fresher restrooms.

Sloan's Optima PLUS® EBF-85 faucet was chosen because it is the world's first battery operated fiber-optic faucet. It blends fiber-optic and infrared technology to sense user's hands. It also adjusts to its changing environment without manual adjustment and emits an audible signal when the battery life is low.

Sloan's electronic products match the sophisticated environment of this 350,000 sq. ft. technology, entertainment center which boasts the most powerful and interactive web site on the internet today, **www.METREON.com.**

Learn more about why entertainment centers rely on the performance of Sloan. Call **1-800-745-0800** or circle the number below for a copy of our full-line catalog/CD-ROM.

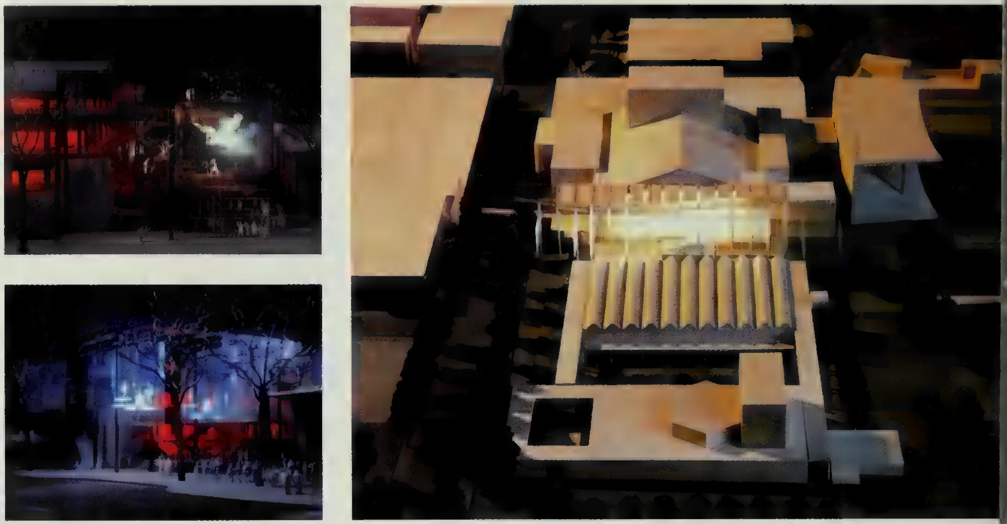


SLOAN.

Sloan Valve Company
10500 Seymour Avenue ▪ Franklin Park, IL 60131
Phone: 800-745-0800 ▪ Fax: 800-447-8329
www.sloanvalve.com

CIRCLE 17 ON INQUIRY CARD

RENOVATED MCCAW HALL TO BLUR BOUNDARIES OF PERFORMER, AUDIENCE


The renovated Marion Oliver McCaw Hall, home to the Seattle Opera and Pacific Northwest Ballet, will reopen in sprin 2003. The $125 million project by LMN Architects includes metal fabric panels, or scrims, that will act as projection screens and structural elements at the entrance. Performance images can be projected on the scrims.

Proposed renovations to Seattle's cultural quarter, Seattle Center, will explode the boundaries of the traditional theater box.

The centerpiece of the district will be the renovated 2,900-seat Marion Oliver McCaw Hall at Seattle Center, formerly the Seattle Opera House. McCaw Hall will house the Seattle Opera and Pacific Northwest Ballet, in addition to various public and private civic organizations and regional performance groups. The $125 million renovation of the 280,000-square-foot performance hall is designed by Seattle's LMN Architects, with theatrical designer Robert Israel of Los Angeles and landscape architect Gustafson Partners of Seattle. The performance hall is scheduled to reopen in spring 2003.

The renovation includes removal of the brick sheath from the 1927 structure, saving the auditorium within, as well as new mechanical and electrical systems. The LMN proposal includes a processional/recessional space to be framed by metal fabric panels, or scrims, that will overlap interior and exterior space at the entrance. The scrims will serve as both projection screens and spatial structure. Events within the hall may be presented live, future events may be promoted, or artist-created imagery may be displayed in this transitional zone. Images of dance and opera will flicker overhead, and the hall will appear transparent with an intended ambiguity between active performers and passive onlookers. Scrim panels will extend across Mercer Street to a nearby parking garage and pedestrian bridge.

Landscape design by Gustafson Partners will enhance the campuslike surroundings, a remnant of the 1962 World's Fair. The entry plaza, serpentine glass lobby wall, and field of scrims will link to the area surrounding the Space Needle and Gehry's new Experience Music Project building to the south. A series of hedged green rooms and terraces will grac the transitional zone between buil ing and landscape.

The urban edge of the campu with an ensemble of buildings huddled along the north edge, will be modified in a districtwide plan utili ing variations in lighting and ambient sound installations. The combined effect will help transforn the district's nighttime experience. *Gavin Keeney*

NEW URBANIST WAY CONTINUES TO FLOURISH With 1,300 participants at the eighth Congress of the New Urbanism (CNU), June 15–18, including politicians, developers, planners, architects, and urban designers, the New Urbanist Way of urban development appears to continue to flourish.

Choosing Portland, Ore., as a venue highlighted the wider horizons that New Urbanists seeks to embrace, including regional governance and urban-growth boundaries—strategies that were pioneered in Oregon and are increasingly being proposed in other American cities as a means to rein in suburban sprawl.

Various panels proposed New Urbanist principles to invigorate older cities and declining inner-ring suburbs by refitting them with town centers and walkable streetscapes. Andres Duany, a CNU co-founder and its most pugnacious defender, offered a new method to diagram how the carefully crafted neighborhoods of New Urbanism can add up to a city. In his diagram, a section line, which he calls a transect, is drawn from an urban high-density core of specialized downtown businesses through mixed-used neighborhoods of lower density, to the urban edge, where a picturesque, semirural scale feathers the urban edge into the natural landscape.

How compelling this ordering can be remains to be seen. But the congress also took on intriguing issues raised by Portland's planning and recent growth (above): Do growth boundaries drive up home prices? Though the debate was spirited, the answer seemed to be that growth boundaries are not the only factor. Will well-organized neighborhood groups accept infill development of higher density? Here again, the picture was mixed. Infill remains a red flag in many communities: It can be costly, and its benefits can seem abstract, say some congress participants. Sensitive design, others say, wins over competing factions and familiarity increasingly brings acceptance. *James S. Russell, AIA*

From A to Z.

No matter what wood door design you're looking for, Morgan has it. Hundreds of elegant solutions in Red Oak and Ponderosa, Radiata and Knotty Pine. We offer ten times more exterior designs, three times more interior designs than many other manufacturers. Need quick product delivery? We'll handle it. And Morgan's century-old reputation for quality assures your reputation will stand the test of time. Call now for our latest catalog: 1-800-877-9482 ext. M2. You just don't have to turn anywhere else.

Morgan

Part of the JELD-WEN® *family*

CIRCLE 18 ON INQUIRY CARD

I, inc. All rights reserved. JELD-WEN is a registered trademark of JELD-WEN, inc., Klamath Falls, OR

HUNGARIAN COPYRIGHT LAW PUT TO TEST BY STADIUM ARCHITECT

A Budapest architecture firm is putting Hungary's new copyright law to its first test involving protection of architectural works.

Közti Rt, the firm that designed the Budapest Sportcsarnok in the late 1970s, claims it has a legal right to take part in the reconstruction of Hungary's largest sports facility, which was ravaged by fire last December.

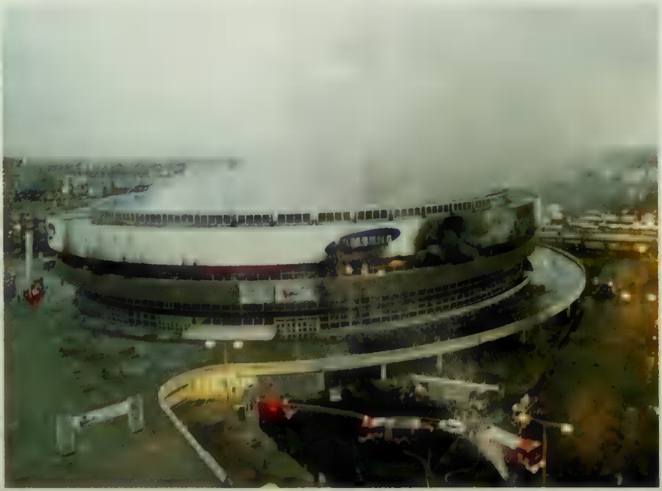
The law, which went into effect last year and extends copyright protection to original buildings, stipulates that the owner of a building is obligated to consult with the original designer and reach an agreement on any proposed changes. It does not, however, obligate an owner to commission the same architect to redesign a building.

"Because of our copyright, we have the right to make a plan for the new building," says László Smaraglay of Közti Rt.

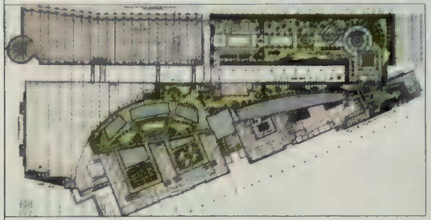
The Hungarian government, which owns the Sportcsarnok, is currently considering two options. It could reconstruct the facility implementing the existing structure, or demolish it and build a completely new complex. Architect István Kiss, who designed the Sportcsarnok and has since retired from Közti, says the structure is still sound and believes the facility can be restored.

The Sportcsarnok, which could accommodate up to 12,500 people, was devastated by fire on December 15, 1999. The intense heat inside the building buckled and collapsed the 86,000-square-foot double-deck steel-domed roof. Damage to the structure was estimated at approximately $23.9 million.
Carl Kovac

The Sportcsarnok in Budapest was damaged by a fire in December, 1999. Közti Rt, the firm that designed the stadium in the late 1970s, claims it has a legal right under copyright law to take part in the reconstruction.



ROOF GARDEN ACTS AS NATURAL AIR CONDITIONER



In the gardens, shoppers and workers can stroll, jog along a rubber-surfaced running track, or just relax on on of the benches bordering the numerous stone walkways and admire th flowers, fountains, and sculptures that adorn the park. The gardens can also accommodate up to 4,00 people at open-air concerts, folk dance shows, art exhibitions, and other cultural events. The three-foot-deep soil acts as a natural air conditioner, decreasing the tempe ature inside the complex by as much as 37 degrees Fahrenheit.

"Demand for rooftop gardens has been gradually increasing sinc the late 1950s, from the beginning of modern mammoth construction projects worldwide," says Gábor Karádi, vice president of the Hungarian division of the International Green Roof Developers Association. "Here, reg ulations in the building code say that a certain percent of any deve opment has to be used as green space. A roof garden can save val able ground space." *Carl Kovac*

The largest multiuse complex of its kind in Central Europe has gone underground. Sections of three top levels of the $200 million WestEnd City Center in Budapest are now covered by tons of soil nurturing hundreds of trees and thousands of shrubs and flowers.

Designed by the Budapest landscape and environmental planning studio Land-A Kft, the rooftop garden (above), completed in May, covers approximately 4.5 acres of the 12.4-acre complex adjacent to the Hungarian capital's Nyugati (Western) Railway Station. The garden cost is estimated at $2.2 million to $2.9 million.

WestEnd City Center consists of four separate buildings housing a market, a multiplex cinema, specialty shops, office space, a Hilton Hotel, and indoor parking facilities for 1,700 vehicles.

UNIVERSITY OF TEXAS AT AUSTIN HEADED TOWARD CONSERVATIVE APPROACH FOR BLANTON **The architectural advisory committee of the Jack S. Blanton Museum of Art at the University of Texas at Austin announced on July 17 the seven architectural firms selected to interview for the museum project. The selection was made from a list of 31 firms that submitted responses to a request for proposals. Now that Herzog & de Meuron is no longer the firm that will design the $70 million museum, the University of Texas appears to be headed toward a more conservative design approach.**

The seven firms are: Hammond Beeby Rupert Ainge Inc. of Chicago; Hartman-Cox Architects/Carter & Burgess Inc. of Washington, D.C. and Fort Worth; Kallmann McKinnell & Wood Architects, Inc. of Boston; Michael Graves & Associates Inc. of Princeton, N.J.; Navarro Baldeweg Asociados, S.L. of Madrid; Overland Partners Inc. of San Antonio; and Porphyrios Associates of London. The firms will be interviewed August 16 and 17, and the search committee will then narrow the field to three to five firms.

Herzog & de Meuron resigned after a disagreement with the university board of regents. Lawrence Speck, who had guided the selection process, then resigned as dean of the University of Texas School of Architecture in protest of the university's handling of the situation. ***JEC***

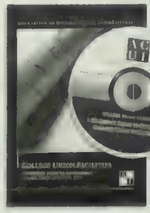
Anything less than **BEGA**, is

www.bega-us.com

Rectangular Recessed Wall Luminaires
available in three sizes
with horizontal or vertical 45° louvers
cut in solid stainless steel.

Circle No. **12**

Specs and photos of outstanding college union facilities



The Association of College Unions International (www.acuiweb.org) has released a new CD-ROM, "College Union Facilities: A Reference Guide to Outstanding College Union Facilities, 2000." The CD contains more than 250 photos and in-depth information about each of the featured facilities' design, function, and furnishings, including construction data, equipment specifications, and floor plans. This information is indexed by school and by type of room or area.

AC
UI

This CD-ROM was developed using the model developed for the book *College Union Facilities* (1990). The CD-ROM is available to ACUI member firms for $100 and nonmembers for $150. Members can purchase the CD-ROM and the 206-page 1990 book for $150. That is a value of $250 and gives you detailed information on 39 outstanding college union facilities.

... at the click of a mouse

Order from the ACUI Central Office at (812) 855-8550 or acuiordr@indiana.edu

CIRCLE 20 ON INQUIRY CARD

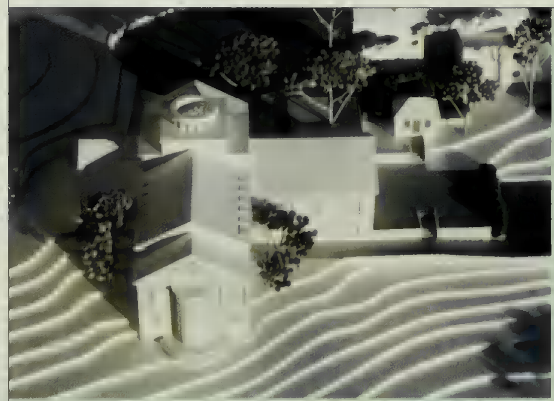
Record News

LANDSCAPE IN AUSTRALIA: GENTLE, THOUGHTFUL DESIGN

While many of the 73 competition designs for a "Place for the People" in Canberra's parliamentary zone were monumental, requiring extensive excavation, the winning scheme is a gentle, thoughtful design which, according to the jury report, "cuts and forms the landscape" instead of instigating a major building program. On July 4 the jury announced the winning landscape plan by Sydney architects Durbach Block in association with Schaffer Barnsley and Harald Straatveit. Construction of the landscape will begin in spring 2001, with completion planned for later that year.

The 130,000-square-foot space, for national rallies, concerts, ceremonies, and exhibitions, is situated at the bottom of the slope from Parliament House at the edge of Lake Burley Griffin—named after Walter Burley Griffin, original masterplanner for Australia's capital city. The design begins in the lake itself. Submerged but close to the surface is a large convex stainless-steel sculpture to reflect light, brightening the water in its vicinity. Up the slope is a 300-foot-wide crescent-shaped amphitheater with broad grass steps on either side. A stretched fabric ceiling can be tensioned above, and a grove of seven white birch trees (in the shape of the Southern Cross) will also provid shade. Beyond the trees is a large lawn, like a balcony, for bigger meetings. Through its center i a 480-foot landscaped ramp, picking up Griffin's land axis and, at its end, a pond, spilling back int two rills on either side of the ramp. A restaurant will be tucked under the amphitheater's curve, and a spiral, three-level building is planned to its east. *Anne Susskind*

A sketch illustrates the open green leading to the amphitheater.



JEFFERSON LIBRARY TO HOUSE THIRD PRESIDENT'S PAPERS

The Jefferson Library at Kenwood, outside of Charlottesville, Va., is designed by Hartman-Cox Architects of Washington, D.C. Construction will begin in August, with completion scheduled for fall 2001.

The $5 million building (left) will house the third president's papers and letters, as well as other related books and documentation of the history of Monticello. It will also eventually include an electronic archive that will be available on the Internet. The Kenwood Estate, within a mile of Monticello, is part of the Jefferson Memorial Foundation. The new library will be open to scholars of Jefferson or of his period, according to Jim Horn, director of the International Center for Studies. Upon request, it will also be open to the general public.

The 15,000-square-foot building will include a reading library, conference rooms, and offices. It will have painted white brick, to match existing buildings on the site, and a slate roof. A glass bay wall will illuminate the two-story reading room and a skylight will brighten the main entrance.

Hartman-Cox also designed the Alderman Library on the University of Virginia's Charlottesville campus. ***Ellen Sands***

“Shape defines space. Texture refines it.”

Angie Lee doesn’t design a room, she creates an environment with a purpose. She reaches new heights of inspiration with the versatility of texture and form. “A ceiling is the finishing element in framing the overall harmony of a room. Its creative energy can define what the room is,” says Angie. Define and refine with Curvatura™ Elite and any of our fine textured *ClimaPlus*™ acoustical panels, such as Millennia®, Eclipse™, Mars™ or Frost™, with our Donn® Brand suspension systems. Call us at 877 874-4200 or visit our website:www.usg.com.

Angie Lee, AIA, IIDA
Principal, Director of Corporate Practice
OWP&P

CIRCLE 21 ON INQUIRY CARD

USG CEILING SYSTEMS

Imagine The Upside.

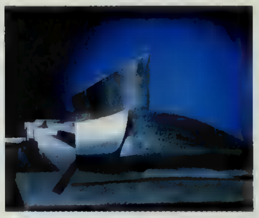
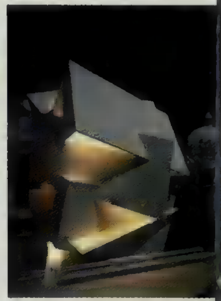
LIBESKIND NAMED AS ARCHITECT OF DENVER ART MUSEUM ADDITION

Denver mayor Wellington Webb announced July 13 that architect Daniel Libeskind will design a $62.5 million, 146,000-square-foot addition to the Denver Art Museum. The new wing will include galleries and exhibition space that will double the size of the existing museum—a gray, fortresslike building completed in 1971 by Italian Modernist Gio Ponti. Libeskind was on a short list for the project with Arata Isozaki of Tokyo and Thom Mayne of Los Angeles.

Jennifer Moulton, Denver's planning director and chair of the selection committee, says Libeskind was chosen, in part, to uphold the Ponti building's "tradition of controversy." She hopes Libeskind's addition, to be complete in 2004, will put Denver on the architectural map. "Denver has moments of wonderful architecture," she says, "but as a city, we don't have a tradition like Chicago, New York, or even San Francisco. We see this selection as a statement about Denver that says we are risk takers."

Libeskind was born in Poland and became an American citizen in 1965. Speaking from his office in Berlin, he says he looks forward to "the challenge of building something that will be memorable and dramatic and important. As someone who emigrated from Poland, who moved on a boat to New York and has been given the opportunity to become an American, this to me represents the American dream."

Other museum projects under way by Libeskind include the Imperial War Museum-North near Manchester, England (opening 2002), an extension to London's Victoria and Albert Museum (2005), and the San Francisco Jewish Museum (2002). *David Hill*

Libeskind (left) has designed the Imperial War Museum-North (middle), and an addition to London's Victoria and Albert Museum (right).

LIBESKIND SPEAKS OF REINVENTING SPACE IN HIS PROJECTS

Architects who took a stab at redefining space included Daniel Libeskind at the fifth Jerusalem Seminar in Architecture: "Reinventing Space: Beyond the Boundaries of the Twentieth Century," held June 11–22. Libeskind spoke at the event with Wolf Prix, Robert A.M. Stern, Kenneth Yeang, Enrique Norten, Carmi Pinos, and Bernard Tschumi, with a response from Charles Jencks.

Libeskind, who chaired the biennial seminar, spoke of the void, representing the Holocaust, at the center of his Jewish Museum in Berlin, and of the building's sloping planes that fall toward the void, "disorienting people [with regard to] what they know [and forcing them] to explore."

For the Imperial War Museum-North near Manchester, England, Libeskind's challenge was to transmit the urgency of conflict, suggesting that "the Earth is not stable and is possibly extinguishable." To this end, he says he "took the crust of the Earth, shattered it into shards and reassembled it." The museum's entire floor is curved. Libeskind says, "It is a space that will show the fatality of gravitational pull." ***Esther Hecht***

Don't reinvent the wheel...

...we've already smoothed out the bumps for you.

Do you chisel out your RFPs and proposals by hand every time? Streamline the process using Uniformat and our master database of pre-formulated easy-to-edit statements. Our clear performance criteria, hard numbers, and phased substantiation requirements offer a smooth ride on your next design-build project.

The power and flexibility of a database, as easy to use as word processing.

The Construction Specifications Institute

DBIA

PerSpective Version 1.1

PerSpective™

The Performance System for Project Teams

A CSI/DBIA Joint Venture Product

(PEAR)

For your 30-day free trial of PerSpective™, call toll-free 1.877.893.0896 or visit www.PerSpectiveNet.com

CD runs on Microsoft® Windows 95, 98, or NT

CIRCLE 22 ON INQUIRY CARD

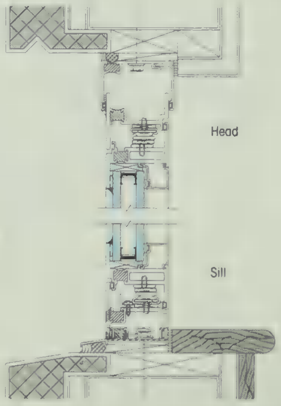
SMART

EFCO® SETS THE CURVE WITH SMART SOLUTIONS THAT MEET SCHOOL BUDGETS.

At EFCO, we understand the quality, safety, scheduling, and budgetary issues associated with school projects. That's why we offer a complete range of windows that meet your requirements—and stay within cost guidelines. Our thermal and nonthermal windows are available in a full range of operating styles to provide comfortable air circulation, sunlight, and emergency egress.

For cost-effective retrofit projects, choose the EFCO Trim-All™ window replacement system. It minimizes tear-out through exterior panning frames and interior trims that snap over the top of existing frames.

And all products can be specified with a variety of finishes, including EFCO standard or unlimited custom paint colors.



es 2200
Windows

ermediate School,
A

insburgh &
, Inc.

erit Glass

CO Corporation

Whether new construction or retrofit, it all adds up to affordable windows without compromise of quality. To find out more, talk to your EFCO representative, call EFCO direct at 1-800-221-4169, or visit our Web site at www.efcocorp.com.

EFCO®

WINDOWS
CURTAIN WALLS
ENTRANCES
STOREFRONTS

CIRCLE 23 ON INQUIRY CARD

French garden includes "strange zone" Architect Stan Allen and landscape architect James Corner won a competition to design a courtyard landscape for the French Embassy in New York. The garden will be in a long, narrow courtyard between the offices of the French Embassy Cultural Services, formerly the Payne Whitney House, and the New York University Institute of Fine Arts, formerly the Duke Mansion, on Fifth Avenue between 78th and 79th Streets. An exhibit of the competition models will be on display at the French Embassy Cultural Services Gallery through September 1.

The landscape by Allen and Corner features tilted metal surfaces that will be lit from below, as well as trees, chairs, and lanterns. The space has three distinct zones: a media grove along Fifth Avenue, an event area in the middle, and a "strange zone," or an ambient, quiet area, in the rear of the space.

View from the "strange zone" at French Embassy

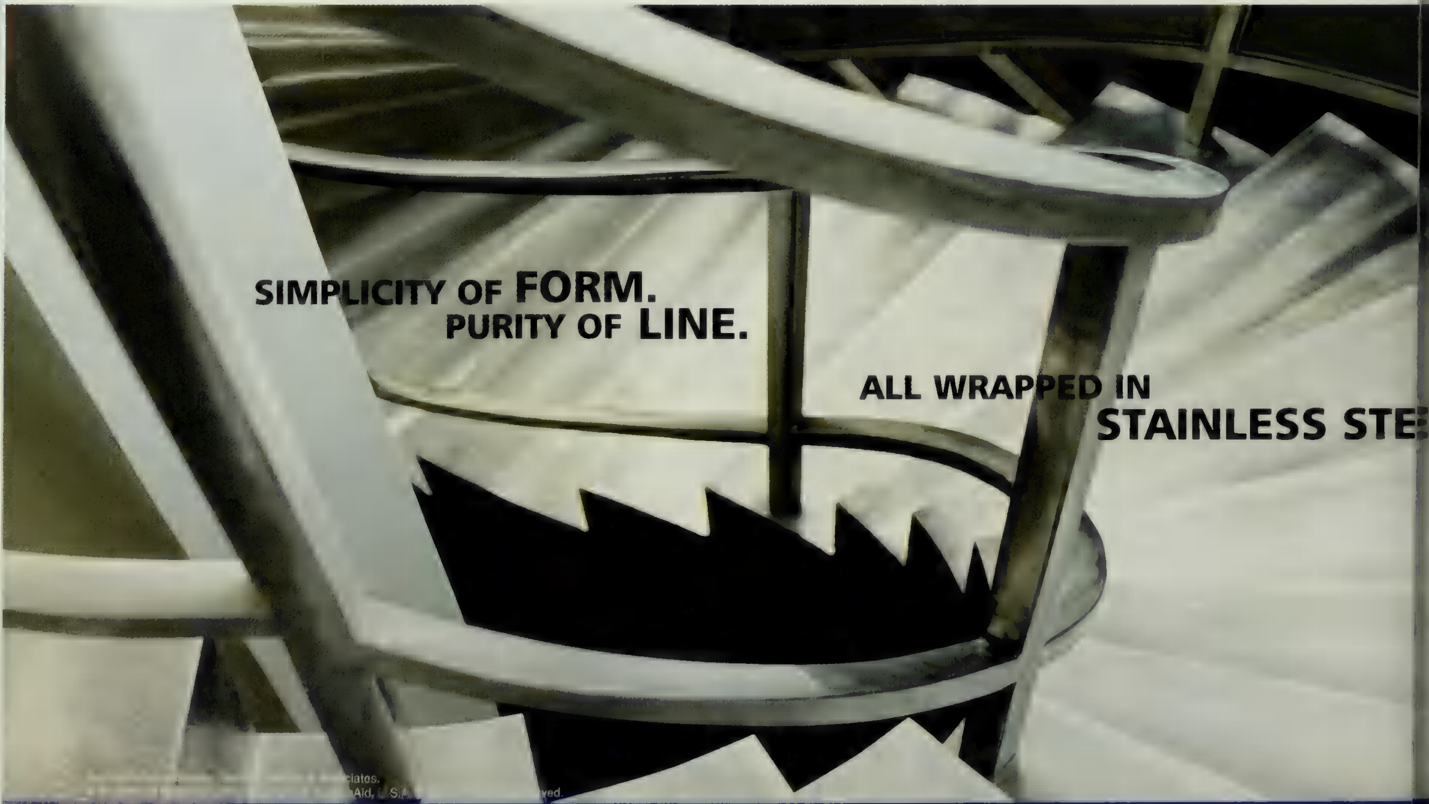
NBBJ designs Oslo Hotel and Conference Center NBBJ of Seattle and Signatur Architects of Norway are collaborating to design the 500-room Oslo Hotel and International Conference Center. Located on the Oslo waterfront, the complex features a sculpturally glazed massing that responds to sailing and the prominent site jutting into the water. NBBJ's team includes Peter Pran, AIA, design principal, Joey Myers, and Dorm Anderson, FAIA. Construction starts in early 2002, with completion in early 2004.

Oslo Hotel and Convention Center

Pei returns for addition to Everson Museum I.M. Pei, who has retired from full-time practice, will complete the schematic design for an addition to his first museum project—the Everson Museum of Art in Syracuse, N.Y. Pei, 83, completed the original reinforced concrete Everson building in 1968 as part of Syracuse's downtown revitalization. Pei Partnership Architects will complete a schematic design in September for a 25,000-square-foot addition to the 50,000-square-foot museum. The addition, with a budget of $6–7 million, will include new exhibition galleries, studios, and classrooms for educational art programs, and an enhanced community space for visitors. Pei Partnership Architects will also assist the museum as it restores the original building.

Jurors Julie Anixter and Robin Ellerthorpe, FAIA

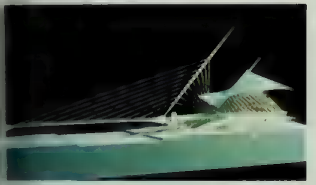
2000 Architectural Record/Business Week Awards jury meets Jurors for the 2000 Architectural Record/Business Week Awards me May 16–17 to review portfolios of this year's entrants. The 10-person jury, including three business executives and seven architects, selected 10 winning entries out of 21 semifinalists in July. Winners will be published in the October issue of ARCHITECTURAL RECORD, and will b honored in a November 17 ceremony at the National Building Museum in Washington, D.C.



CIRCLE 24 ON INQUIRY CARD

News Briefs

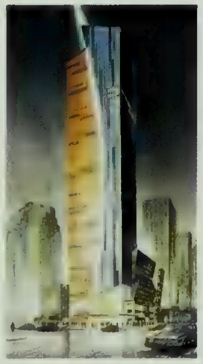
Opening date set for Calatrava's Milwaukee Art Museum addition The Milwaukee Art Museum has announced its addition by Santiago Calatrava will open May 4, 2001. The museum's park and gardens along Lake Michigan, designed by landscape architect Dan Kiley, will open in fall 2001. The $75 million addition was originally planned to open in January 2000, but project complications and delays pushed the date to December 2000, and eventually into 2001.


Milwaukee Art Museum addition

Arquitectonica's Times Square Hotel goes up Construction has begun on one of the last major developments of the new Times Square in New York City. A project launch ceremony July 11 announced the official construction start for the Westin New York at Times Square, designed by Arquitectonica of Miami. The 858-room, 45-story hotel will be located at the corner of Eighth Avenue at 43rd Street, at the western edge of the 42nd Street redevelopment area.

Developed and owned by Tishman Realty and Construction Co., the 667,00-square-foot hotel will be completed in late 2002.

The hotel will feature a seven-story atrium, beginning on the building's ninth floor. Two interlocking prisms, one concave and one convex, will compose the 532-foot tower massing.


Westin Times Square

Richard Rogers wins Praemium Imperiale British architect Richard Rogers was named a recipient of the 12th Praemium Imperiale, awarded by the Japan Art Association, on July 11. Awards are given to artists in the fields of painting, sculpture, architecture, music, and theater/film for their lifetime achievement. The Japan Art Association is a foundation governed by His Imperial Highness Prince Hitachi. Winners each receive 15 million yen ($138,000).

Newseum part of $250 million D.C. development Yet another museum is planned for Washington, D.C. The Freedom Forum, a nonpartisan private foundation, announced July 11 that it plans a new home for its museum of news, Newseum, to be located on Pennsylvania Avenue across from the National Gallery of Art and the Canadian Embassy. The $250 million development would include the museum, as well as retail, residential, and a conference center.

The Freedom Forum has offered the District of Columbia $100 million for the site—the largest offer ever made for a site in the district. The city's department of employment services, currently on the site, plans to relocate. The $100 million offer includes a $25 million grant for low- and middle-income housing which, if the deal is completed this year, the city may locate at its discretion. An architect has not been named, and a development time frame has not been announced.

The original Newseum has attracted more than 1.5 million visitors since it opened in 1997 in Arlington, Va.

Introducing the Architect™ Series from KitchenAid.
A complete line of innovative built-in appliances each designed with a full wrap of shining stainless steel. KitchenAid offers professional-quality appliances and a wide variety of design options to leave a beautiful, lasting impression. To learn more about the Architect™ Series, and to view the entire KitchenAid® line, visit our web site at www.KitchenAid.com, or call 1.800.422.1230.

KitchenAid™

FOR THE WAY IT'S MADE.®

WWW.architecturalrecord.com

SEE our new look and exciting new features...

news

projects

features
digital architect
green architect
business week/
architectural
record awards
interviews

dialogue
editorial
from the field
letters

virtual
architect
record houses

continuing
education

recruitment

advertisers/
products

professional
directories

about record
index
subscribe
advertise
shop record
submit an article
editorial calendar
email policy
privacy policy
contact us

events

site map

home

Log on for **Daily News**

Get the latest scoops from the world of architecture – every day – only on **architecturalrecord.com.**

Projects

Rose Revealed

See exclusive construction photos, technical drawings and conceptual sketches from **The Rose Planetarium – only on the web.**

Making EMP Rock

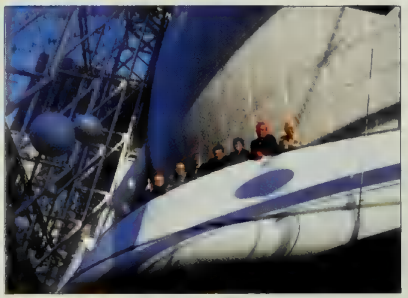
Frank Gehry's groundbreaking design for the Experience Music Project (EMP) pushed construction engineering to the limit. Find out how the innovative use of technology facilitated construction – **only on the web.**

Find links to people & products

involved in the Rose Center; Colleges & Universities; Lighting and Experience Music projects.

sponsored by buzzsaw.com
an Autodesk venture

Interviews



Rose 'Buddies'

In Interview, **James Polshek** and his partners, designers of **The Rose Planetarium**, reveal the nature of their unique creative partnership. See the **complete text only on the web.** Plus interviews with Calatrava, Gehry, Legorreta, and others.

sponsored by revi

Digital Architect

Connect to related high tech resources through **web-only IT Vendor Guides** an software reviews with links to manufacturer web sites. Find current and past coverage. **New this month – Software Used to Create the Rose Planetarium.**

sponsored by autodesk

Tune in to "From the Field"

Click for the latest buzz by *Record* editors from travels in field – only on architecturalrecord.com. New journals are posted regularly.

Green Architect

Making it easier to be green.
Find web-only 'Green' product reviews, **links to manufacturers** and coverage of green issues.

Cool Jobs

Go to Recruitment to find career opportunities and information for architects and related professionals.

Earn CES Credits Online

Read *Record's* **building science** featur **continuing education** self-study cour and file online for CES credits.

Building On Generations Of Experience

We're committed to the future!
AGLE Window & Door we continue
ffer a rich heritage of superior
smanship. Many of our employees
econd- or third- generation window
ers, and remain the strength and
of our business. That's why we're
esting in our community by building
, state-of-the-art manufacturing
ity. From the oldest, continually-
ted window and door facility in the
ry (circa 1860's) to the newest,
E is dedicated to carrying on a
standing tradition. Isn't it time
xperience a legacy in the making!

For information about
EAGLE, call (800)453-3633
or visit our website at
www.eaglewindow.com.

© 2000 EAGLE Window & Door, Inc. - Dubuque, Iowa
An American Architectural Products Corp. Company

CIRCLE 25 ON INQUIRY CARD

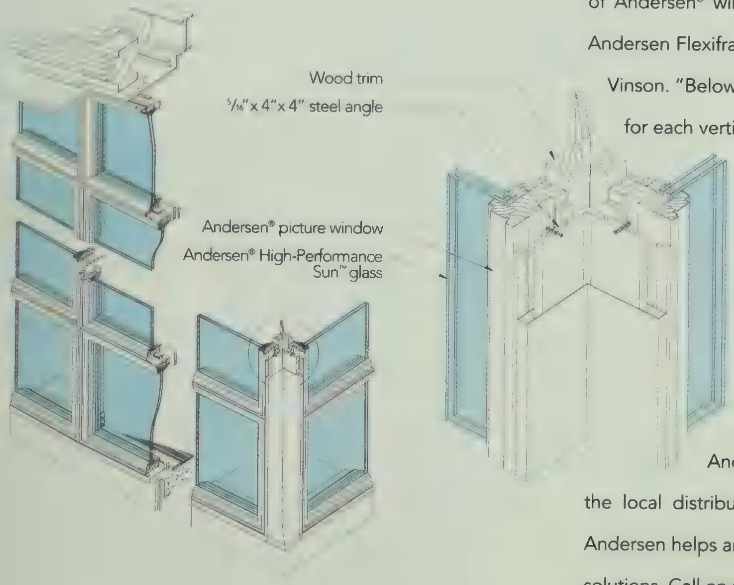
[illegible] Architects, Inc. Atlanta, GA
Principal in Design and Architect in Charge: Clarence T. Vinson, AIA
Design Assistance: Preston Bennett • General Contractor: Dudley Barrett, Atlanta, GA
Fenestration: Andersen® Flexiframe® and casement/awning picture windows
in [illegible] with Perma-Shield® low maintenance exterior and
energy efficient Andersen High-Performance Sun® glazing

"Andersen [illegible] and "Flexiframe" are registered trademarks of Andersen Corporation. All other marks where denoted are marks of Andersen Corporation. © 2000 Andersen Corporation. All rights reserved. 0332A

ARCHITECTURE DEFINED

ANDERSEN FLEXIBILITY REFINED

"We wanted our new offices to be a statement about what we do as architects," said Director of Design Clarence Vinson. The result? Using interlocking forms, spatial planes and contrasting materials, this firm defined its profession, and refined the role of Andersen® windows in commercial design. "We used the Andersen Flexiframe® windows in a truly flexible way," said Mr. Vinson. "Below the curved roof soffit, we specified the height for each vertical mullion and the windows were made to fit the arc without curving themselves. Below them, Andersen helped us create a wall of windows by using their standard sized windows with low maintenance exteriors and energy efficient glazing." Andersen people were flexible, too. Said Mr. Vinson, "From the expert support of the architects at Andersen Corporation, to on-time delivery by the local distributor, everyone was incredible." This is how Andersen helps architects achieve imaginative, flexible window solutions. Call on us to play a definitive role in your next project. **Get a CD-ROM portfolio of this and 160 more projects, and our catalog, by calling 1-800-426-7691 reference# 2637.**



Wood trim
5/16"x 4"x 4" steel angle
Andersen® picture window
Andersen® High-Performance Sun™ glass

ANDERSEN®
COMMERCIAL

Andersen
AW
Windows·Patio Doors

www.andersenwindows.com

CIRCLE 26 ON INQUIRY CARD

wallboard + mouse = nationalgypsum.com

Making expert decisions h s never been simpler. Just lo on to nationalgypsum.com or the most comprehensive gypsum products informat on the web. Designed for e of use, it's the only formu you need to make expert decisions, and just what y expect from the gypsum industry's service leader.

National Gypsum
COMPANY

CIRCLE 27 ON INQUIRY CARD
www.nationalgypsum.co
1.800.NATIONAL

After the war: The ancient city of Dubrovnik comes back

Correspondent's File

By Bette Hammel

Jutting out from the Dinaric Mountains into the clear blue Adriatic, the ancient walled city of Dubrovnik, Croatia, renowned for centuries for the beauty of its medieval architecture, is close to complete recovery from the ravages of civil war a decade ago. "Nearly 75 percent of the restoration process is over," says Vjekoslav Vierda, director of the Institute for the Restoration of Dubrovnik. The painstaking rehabilita- ion process has clearly succeeded in eviving the city's architectural repu- ation as a world heritage site.

Devastation

ntering the Old City for the first time, he average tourist would barely otice where damage occurred during he bombardment of the city by erbian and Montenegran forces of he Yugoslav National Army in the utumn of 1991. Croatia had just eclared its independence from ugoslavia that summer. When heavy ortar and artillery fire first struck at October, local residents were ken by complete surprise. The subequent eight-month assault evastated the Old City. Nine 17th-entury palaces were gutted, 60 ercent of the tiled roofs were estroyed, the city was left in flames. total, 2,000 shells struck, hitting 68 rcent of the Old City's 824 build- gs. "The city looked like Casablanca ter World War II," says Vierda. The ck limestone walls (80 feet high d 20 feet wide in some places), hich completely encircle the city like protective arms, staved off 314 direct hits with only minor damage.

Architect Matko Vatma, president of the Architectural Association of Croatia in Dubrovnik and head of the firm Gradevinar-Quelin, says, "Even during the war, we didn't believe we would be destroyed, but it was done." Previously, Vatma had been an architectural conservator for a governmental agency.

UNESCO sent representatives from its Paris-based cultural arm to help save the city, but to no avail. Other European countries, outraged by the attacks, then offered technical support in a massive restoration effort. "With them, we found a methodology," said Vatma. From the French, for example, they learned a new technique of cleaning stone by laser.

Crossing the drawbridge that leads through the Pile Gates into old Dubrovnik is like entering ancient history, in the times of the Roman emperors, seafaring Venetians, and Marco Polo (born on the nearby island of Korcula). Passing under the massive walls, visitors step down into a city built entirely of pale, cream-colored stone with a glorious patina. This famous limestone has graced the White House in Washington, D.C., and comes from the islands of Korcula and Brac, where it is still quarried. Even the streets and plazas are paved with blocks of the stone. Guides still point out the remnants of bullet holes in the pavement. Since the city evolved as a medieval aristocratic republic from the 12th to 19th centuries and suffered through devastating earthquakes, it bears the mark of several architectural styles, including Italian Renaissance, Gothic, and Baroque. Vatma calls the city structure essentially 13th century medieval.

Ancient city on the sea

For more than a thousand years, the port of Dubrovnik provided the last protected haven along the Adriatic's eastern coast, for ships at sea and travelers to Greece, Turkey, and the Holy Land. South of Dubrovnik, the islands disappear (there are 1,200 along the Dalmatian coast), and sailors then face the open sea. Over the centuries, many different maritime and sovereign powers left their architectural influences on the city—the Byzantiums, Saracens, Venetians, Hungarians, as well as the Roman, Ottomon, Hapsburg, and Napoleonic Empires. Yet for 800 years, Dubrovnik managed to stay out of wars, even when it was taken over by the Venetians in 1205.

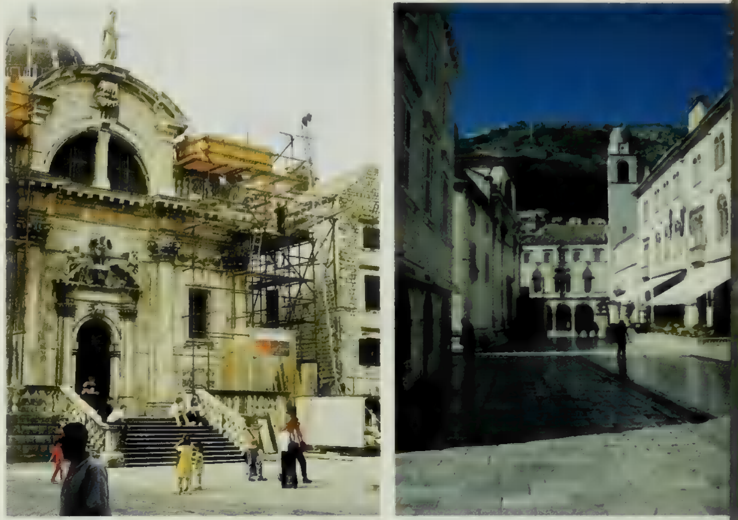
In 1667 a catastrophic earthquake severely damaged most of the medieval buildings. The city rebuilt itself, this time incorporating Gothic and Baroque styles of architecture. It was not until 1979 that another major earthquake hit. Again the same regulations governing restoration were immediately launched. As always, the main goal was to remain faithful to each building's original character. Successful restoration policies led UNESCO to list Dubrovnik in its world heritage sites of 1979, ranking the city as one of Europe's top three cultural monuments.

Time for help and healing

No bombs or gunfire had hit Dubrovnik until the fatal fall of

tte Hammel is a freelance journal- specializing in architecture.

A brickyard near Zagreb produced the tile closest to the city's original colors.



The restoration's plan mandated the use of traditional techniques and materials wherever feasible. Some materials, such as the local white stone used (above right), were more costly than labor.

1991, when Serb and Montenegran forces attacked the city. To handle the restoration process, the Institute for the Restoration of Dubrovnik (already established by law) began working with an Expert Advisory Commission comprised of restoration experts from Croatia, other international preservationists (two nominated by UNESCO), and architects such as a professor from Rome University and the chief inspector of Notre Dame in Paris.

It was a painstaking effort from the start. Fortunately for the restorers, Dubrovnik already had an abundance of archival material preserved. Following the 1979 earthquake, surveys were taken collecting technical documentation of structural conditions, roof beams, interior damages, and so on. Conservation guidelines were also issued, spelling out requirements for work on historic buildings. The guidelines proved immensely valuable to the Advisory Commission as they developed a master plan for Dubrovnik's restoration. How to begin the overwhelming task? A priority list was set up by the Institute for the Restoration of Dubrovnik, based on UNESCO'S list: the city walls, oldest harbor, 684 buildings including the 11th-century fort, the 1386 Franciscan monastery, the granary, and third oldest synagogue in Europe.

CROATIANS, HARD HIT BY A DEPRESSED ECONOMY, HOPE TOURISM WILL INCREASE.

The local committee, however, saw its first priority following the devastation as the reconstruction of the tile roofs. "These were people's houses. Our point of view was to rebuild them so people could return from the hotels where they had been living. We had to prevent any further damage from rain and weather as fast as possible," said Vierda. Matching the color of Dubrovnik's original tile, however, turned out to be a problem. These were the old pre-industrial type of tiles in a wide range of colors, from light ocher to rosy red tones.

Local contractor Marko Kovacevic, president of GP Dubrovnik, whose firm was involved in the reconstruction after the 1979 earthquake, is the major contractor for the current restoration work. He explained that it is very hard to get the original handmade tiles. Called *kupa*, the tiles came from the village of Kupari, near Dubrovnik, and were made by kneading the clay like dough for about five days until it turned the color honey. Then the tiles were shaped to the curve on a man's thigh before being baked slowly. Although the contractor and others had to turn to mass production, abandoning the traditional method was a matter of some dispute. Eventually, they found a brickyard near Zagreb, in northern Croatia, that makes tile closest to the Dubrovnik color. Today, as tourists walk atop the the old walls, marveling at the sights of the Adriatic and the splendid city, the tile roofs appear like something out of an Old Master painting—some honey-colored and brownish, some burnished to a deeper red, a few still unrepaired. Admittedly, the new redder titles stand out because of their uniformity.

One of the largest problems for the contractors, according to Vierda, was transporting restoration materials within the Old City, where cars are prohibited and there is simply no room for big trucks. The G.P. Dubrovnik firm used ships for that purpose. "We have expertise at rebuilding from the sea," said Kovacevic, showing a photo of a huge platform mounted on the deck of a seagoing vessel. Labor costs were not the problem here; materials and transportation were. Only natural materials were used in the restoration—stone, wood, and tile, no stucco. The area's beautiful white stone is the most expensive to build with, says the contractor.

Repairing major stone buildings that were famous for their sculptural facades required specially trained stoneworkers from the international community.

Stoneworkers helped repair the Sponza and Rector's Palace, St. Blaise's Church and the cathedral. Although tourists still will find scaffolding around the city and certain facades in need of cleaning, they can stroll down smooth pavement on the Placa (Dubrovnik's pedestrian promenade), relax in the cafes drinking delicious Croatian wines and hardly notice the many rehabilitated buildings.

Financing the restoration has been a problem all along. Initially, UNESCO gave nearly half a million dollars but now gives technical support only, according to Vierda. Nearly 80 percent of the budget comes from the government of Croatia. Financial support from the World Monetary Fund ended last year. Now there are mostly contributions from individuals and organizations, says Vierda. He expects that in future years there will be more local sources of funding and that eventually Dubrovnik will return to a form visitors' taxation. Vierda predicts th reconstruction will be finished in th next two years.

Meanwhile, Croatians, hard hit by a depressed economy, hop that tourism will make a comeback. At G.B. Dubrovnik the company is down to 300 employees, compared to 1,500 in previous times; this despite the fact that they have much work to do on the infrastructure, the new marinas, the hotels, and the ongoing repair of the tile roofs. The infusion of much-needed tourists currency will help greatly. And there are positive signs. Architect Matko says, "This is the first year that Dubrovnik is alive again. It's safe, no problem."

Slowly, tourists are drifting back. In small numbers so far, the are touring restored palaces and churches, learning how residents convert their tall, narrow stone houses into contemporary living spaces, and marveling at vistas from the city's ancient walls. Than to the restorers, Dubrovnik can once again claim Lord Byron's poetic description as the "Pearl of the Adriatic." ■

EILING SYSTEMS

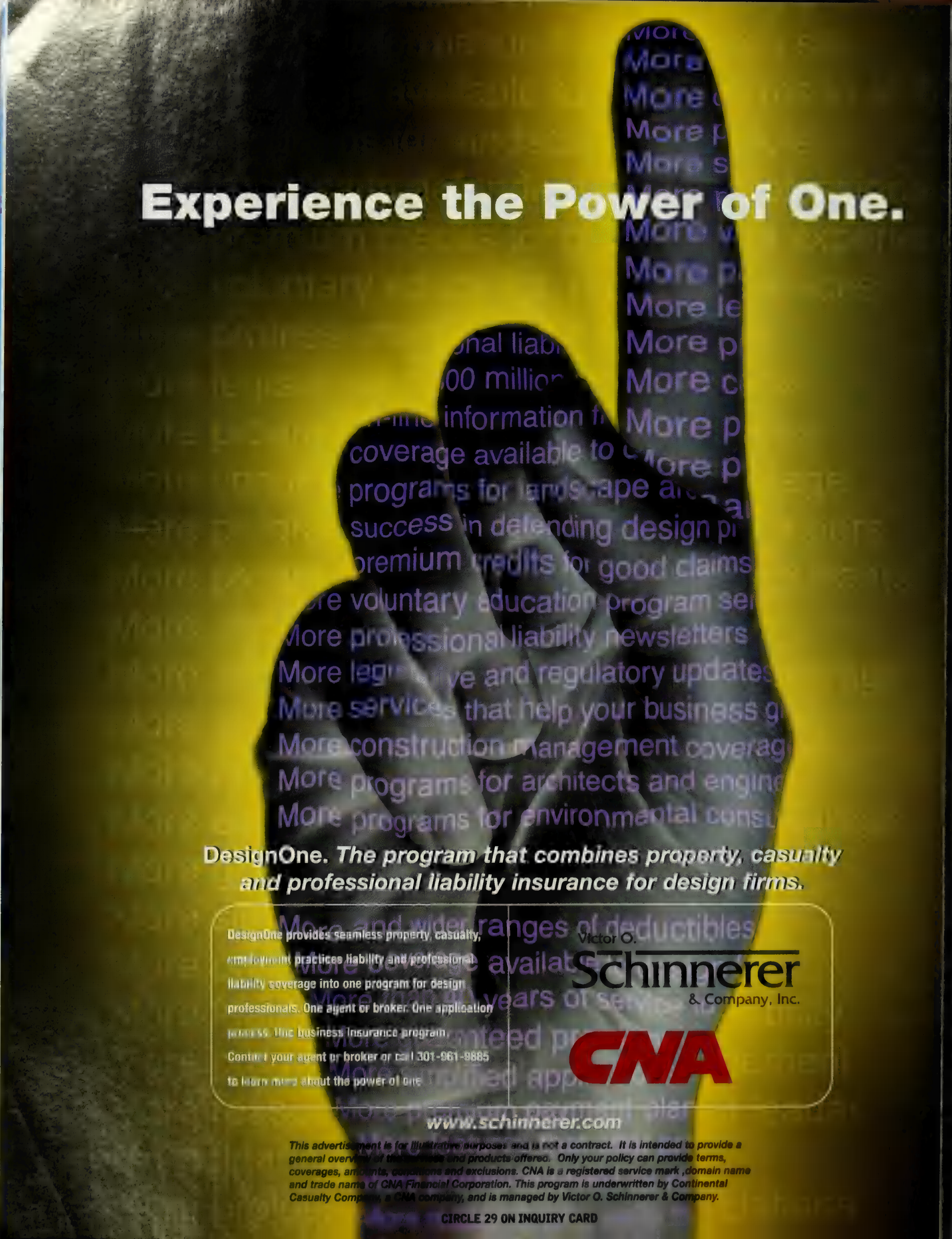
[**Between us, ideas become reality.**™]

LET YOUR IMAGINATION SOAR.

If you can envision it, we can help make it happen. Introducing our new Architectural Specialties Group, a technically savvy service team that can collaborate with you in designing custom ceiling applications that will redefine the ceiling plane. And offer you all new visual options with Armstrong WoodWorks™ and MetalWorks™ specialty ceilings. Call us today at 1-888-207-2321 or visit www.ceilings.com. And find out how Armstrong can work with you to turn ideas into realities.

Armstrong

CIRCLE 28 ON INQUIRY CARD


Experience the Power of One.
More
More
More c
More p
More s
More
More v
More p
More le
More p
More c
More p
onal liab
00 million
information f
coverage available to
More p
programs for landscape ar
success in defending design pr
premium credits for good claims
voluntary education program ser
More professional liability newsletters
More legislative and regulatory updates
More services that help your business g
More construction management coverag
More programs for architects and engine
More programs for environmental consu
More and wider ranges of deductibles
More coverage availab
More than 40 years of service
More guaranteed pr
More simplified app
More premium payment plan

DesignOne. *The program that combines property, casualty and professional liability insurance for design firms.*

DesignOne provides seamless property, casualty, employment practices liability and professional liability coverage into one program for design professionals. One agent or broker. One application process. One business insurance program. Contact your agent or broker or call 301-961-9885 to learn more about the power of one.

Victor O.
Schinnerer
& Company, Inc.

CNA

www.schinnerer.com

This advertisement is for illustrative purposes and is not a contract. It is intended to provide a general overview of the services and products offered. Only your policy can provide terms, coverages, amounts, conditions and exclusions. CNA is a registered service mark ,domain name and trade name of CNA Financial Corporation. This program is underwritten by Continental Casualty Company, a CNA company, and is managed by Victor O. Schinnerer & Company.

CIRCLE 29 ON INQUIRY CARD

Firms go fishing in unproven waters to find new work

By Elizabeth Harrison Kubany

At first glance, Colorado's Ocean Journey (COJ) does not seem so special. Located in Denver, it is one of many new aquariums built in this ountry during the past few years. What is interesting about COJ is hat it was built at all. According to ich von Luhrte, FAIA, principal of Denver-based RNL Design, "In late 1992, when the client went out with he RFP for Colorado's Ocean ourney, there was no community upport for this project. Nobody elieved it was real."

But the clients presented hemselves as an organization with onsiderable clout, making major resentations to the media and oliticians to demonstrate their ommitment to the project. The rincipals of RNL Design were trigued. They teamed with another ocal firm, Anderson Mason Dale, to rm an entity called Odyssea. espite the fact that several large ational firms had expressed inter- st, they won the project in ebruary 1993, because, says von uhrte, of the client's desire to work ith a local team.

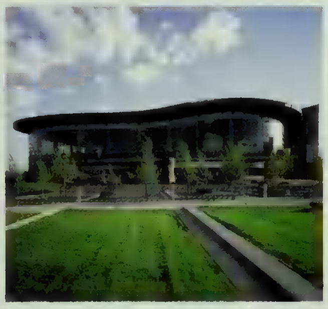
e careful what you wish for

s von Luhrte explains, "We didn't ow what we had won until we on it. We realized shortly after- ard that the client had no money, staff, no organizational struc- re, and no real plan for getting is done." This laundry list of prob- ms did not deter von Luhrte and s partners. "We are a successful n but we are not nationally own. Our attitude is that when mebody brings us an opportunity, we have to grab it because another one like it might not come along again. We felt that we should try to help them light a fire and demonstrate the project's viability."

So Odyssea decided to proceed with the project. Between February 1993, when Odyssea was officially selected for the project, and February 1997, when a $30 million municipal bond sale was approved, Odyssea worked for a fraction of a fee. Von Luhrte says, "We structured the fee so we could help them develop the project quickly and for a minimal amount of money."

To start the process, Odyssea held workshops. Exhibit designers, curators, and aquarium owners were brought in to help the design team determine the project's shape. These workshops would typically last a week and would generate "a ton of material." The consultants were not hired in the traditional manner, but were paid for their time and expertise. By using this brainstorming approach, Odyssea was able to work through the schematic design phase very quickly for a reduced fee. Says von Luhrte, "This was a very lean strategic group. On an ordinary project, this process would take close to a year and cost hundreds of thousands of dollars. We did it in less than six months for a fraction of that."

Odyssea and the client also decided to treat COJ as a design-build project (which had rarely been done before on an aquarium because of the sophistication of the systems necessary to this building type) and brought the contractor—Hensel Phelps Construction—on immediately, which was crucial to the realization of COJ. Among the advantages of using design-build was the ability to arrive at a guaranteed maximum price very early in the process so that the structured bond sale could be held.



A joint-venture of two firms accepted business risks to get Colorado's Ocean Journey project built.

Moreover, Hensel Phelps was willing to front some of the initial costs while corporate sponsors and other donors were being sought, paying for the site acquisition and architectural team's fee—albeit a nominal one—for its schematic design concept.

Still, Odyssea allowed deferred payments at several points in the design development and schematic design phases to allow contributions to catch up with expenditures. Once the bond sale was approved in February 1997, everyone was paid promptly and in full, in accordance with an AIA contract, and this practice continued throughout the remainder of the project.

Odyssea invested four years of nurturing into COJ without knowing if the project would happen or if they would be the architect. But the most immediate risk was that there would be no project at all. Moreover, because the architectural team did not have a contract until the bond sale was approved, it was always possible that Odyssea would have gone through programming and design, yet not be chosen for the final contract. "In my opinion," says von Luhrte, "there was never any question that we would be the architect. We had an agreement. Of course, agreements can be broken. But we gained the respect of the client with our hands-on support." The risk was also a calculated one. Von Luhrte contends that "from the beginning, this project had the potential to be very high profile, and of national significance. We felt it was worthy of our time and money. We have grown because we have taken that attitude with other projects as well, including the Living Planet Aquarium in Salt Lake City, which had similar financial problems.

Clearly, this kind of high-risk exercise is not for everyone. Still, Von Luhrte feels there is a lesson for the profession. "Architects can take a leadership role in projects. The architect can be the one to make a $90 million project real." Odyssea has just been asked by COJ to do concept work for phase two of the project, because the aquarium significantly exceeded its expected attendance in its first year. ■

sustainable design

made from
LIGNASIL

www.maderatile.com
1.800.767.4495

CIRCLE 30 ON INQUIRY CARD

Sprawl has turned the world inside out. Landscape architects may be the ones to civilize it

Critique

By Suzannah Lessard

The most confounding aspect of sprawl is not that it turns the American Dream into a nightmare, or that it generates traffic congestion that only increases as more roads are built, but rather that sprawl dissolves the distinction between city and country. That archetypal difference, laid down over the centuries, so profoundly configures our view of the world and our sense of the meaning of landscape that its dissolution leaves us at a loss. We don't know how to make sense out of this new landscape without boundaries.

A mere 50 years of experience with sprawl hasn't loosened the hold over our imaginations of that older nherited template of town surounded by country. Indeed, as we ry to make sense of sprawl—as we ry to civilize it—the best that we re able to do is to try to corral it in way that mimics the old template. We create old-fashioned towns out f whole cloth, towns that suggest hat they are surrounded by country ven if they are really surrounded y sprawl, and are, in fact, a part of prawl. Or we set up boundaries round cities beyond which we make development difficult in rder to protect the farmland, thus eeping the idea of a city surounded by country intact. audable as these efforts are, they in the face of reality.

uzannah Lessard, author of The rchitect of Desire: Beauty and anger in the Stanford White mily, *is working on a book about rawl. She lives in Washington, D.C.*

Even more devastating to the distinction between town and country is that sprawl, in its latest permutation, is no longer necessarily contingent on cities at all. Edge cities can spring up in the middle of nowhere, as the countryside used to be called. Suburbia need no longer be subordinate to urban centers as its name implies but is becoming self-sustaining. It is technology, of course, that permits this: because of electronic communications and the Internet, businesses have been freed of the need to be near one another, and residential development follows. One of the most bewildering shifts brought about by the technological revolution is the dissolution of geography as the foundation of community.

The physical result of this shift is splotchy archipelagoes of sprawl that break out without relation to cities and then reach toward one other, eventually making islands of the countryside rather than the other way around. Not only does it blur the distinction between city and country, but it eventually inverts the older landscape. Our culture—our literature, our art, perhaps even our music—teaches us to see the composition of the landscape as one in which the works of man are cradled in a vast natural world. Behind this is a picture of the medieval hill town—Assisi set like a jewel in the pastoral landscape of Umbria that extends like an ocean to the horizon. The radical nature of sprawl is that, fully unfolded, it gives us bits of Umbria surrounded by Assisi.

Our concept of wilderness, too, is turned inside out. Wilderness has always been what lies beyond the pastoral landscape, desolate through most of our cultural history, romantic in the last couple of centuries, but always beyond. In the radical recomposition of landscape in the age of sprawl, though, whatever wilderness might exist is really a kind of sanctuary and in that sense the least wild thing. It's the built world, proliferating madly, that is the wild thing in this picture. The heart of the jungle, in a certain way, is to be found in the depths of the mall or the subdivision cul-de-sac, which is to say, in ourselves. To the degree that we don't understand or govern sprawl, we do not know or govern ourselves. In a world in which we are the irresponsible stewards of nature it is our own nature, rather than the wildest extremity of the natural world, that is the frontier where the civilizing has to begin.

Who's cradling whom? A view of New York City's Central Park.

How is this to take place? For most of the 50 years in which sprawl has turned our landscape inside out, we have been passive, as if numbed by a strange kind of helplessness that has amounted to a massive abdication. The reversing of this situation—the civilizing of sprawl—will involve all of the arts, as this endeavor goes beyond issues of architecture and planning. A critical part of that effort will be learning to see the landscape of sprawl in a way that is free of old preconceptions. But where the actual implementation is concerned, it will not necessarily be architecture, or even planning, that will lead the way. Indeed, the record to date suggests that it will not be. Perhaps better equipped to come to grips with these compositional issues is the field of landscape architecture.

That profession is well positioned to address the radical reconfiguration of landscape by sprawl. To borrow a term from the field of painting, it's as if what was once "negative space"—the natural world—became the subject, while that which was the subject—the built world—became the "negative space." In other words, under these new conditions, the natural world in a certain way has become more meaningful than the built world. Environmentalists see the world in this way, but in doing so they tend to blank out the value of the built world altogether. It's landscape architects who look at both the built world and the natural world, and explore the interaction between the two. For this deeply relational profession, no shift in focus would be necessary in taking on the major issues presented by sprawl.

Further, almost everyone who grapples with the problem of sprawl agrees that we must think regionally. The reasons have to do with political boundaries, economic health, and social configurations, as well as environmental concerns and the need to preserve open space. But for the landscape architect, regional thinking has always been fundamental. This goes back to the founder of the profession, Frederick Law Olmsted, the first regionalist, whose largest vision consisted of interconnected open spaces.

Another asset of landscape architects is their extensive experience dealing with sprawl. While the architectural establishment has ignored suburbia in the last half century, landscape architects have been busily doing work there, for both business and residential clients. It is the design profession that has been immersed in the new landscape since it first started appearing.

Landscape architects are environmentalists who relate to the built world and designers whose primary object is the natural world. They have both the practical experience and the spiritual sensitivity to look over a region and select the natural configuration of open space around which the built world could arrange itself.

Might it not make the most sense to start rethinking sprawl in this way—to take the most logical and natural configuration of open space while allowing the built world to fall into place around it, in whatever way the free market determined, from McMansions to new urbanist towns? For where the built world is concerned we need a maximum of experiment and invention until pleasing, meaningful architectural and planning forms are discovered. Might that not be most likely to happen if we allow open space, which has become precious and sanctuary-like in this new world, to anchor our new landscape in the way our towns once did. Or, put another way, to allow open space to be the center in the way the village green once was, with the town falling into felicitous patterns around it: in a certain way this is a similar proposal though on a much larger scale.

We tend to think of sprawl as a kind of mistake, as a landscape that is too banal to have a deep meaning. But in fact our landscapes are profound reflections of the periods in which they appear. It is no accident that, during the century in which we became capable of destroying our world, a landscape appeared in which the works of man have come to frame the natural world rather than the other way around. We have no choice but to accept both developments. Figuring out how to make sense of the inside-out landscape is not just a matter of planning, or making our world prettier. It is to engage with the evolutionary truths of our time. It is to create a landscape that reflects the facts of our existence. It is to bring a civilizing consciousness onto our wildest frontier. ■

from traditional to hi-tech, from old-fashioned to contemporary, from luxurious to affordable, from standard to custom, from monochrome to color, from relaxing to provoking — Canterbury International has been your source of architectural site furnishing for over 40 years!

Rivera bench and trash receptacle

For a complet
catalog call
Canterb
Internat
1-800-935
or look us up
www.canterbu
CIRCLE 31 ON IN

See it. Feel it. Change it!
www.3D-WIN.com

Architect: GRUZEN SAMTON

3D WIN

3D ARCHITECTURAL RENDERING
3D ANIMATION
PRESENTATION BOARD GRAPHICS

1270 Broadway, Suite 409, New York, NY 10001
Tel 1. 212. 695. 5007 Fax 1. 212. 695. 5010

CIRCLE 32 ON INQUIRY CARD

"SHELTER FROM THE STORM"

With United States Aluminum's series 4500 Curtain Wall on your next building, you won't have to worry so much about Mother Nature. That is because the 4500 features pressure-relieved horizontals with a patented UNIflash™ system that literally sweeps infiltrated water to the exterior. The 4500 has other advantages, like non-conductive injection-molded thermoplastic connectors and no exposed joint fasteners. It looks great too, and you can even specify different finishes for exterior face members and interior mullions to get just the look you want. Call today for information and specifications. See for yourself the difference series 4500 can make next time Mother Nature gets a little too rowdy.

United States ALUMINUM
COMMERCIAL PRODUCTS GROUP

A world of possibilities

CIRCLE 33 ON INQUIRY CARD

200 Singleton Drive Waxahachie, TX 75165-5094 T: 800.627.6440 www.usalum.com

Never swim alone: MoMA and P.S. 1 throw an urban beach party with designer dunes

Exhibitions

By Clifford A. Pearson

The architects at SHoP/Sharples Holden Pasquarelli aren't afraid of rolling up their khakis and getting their feet wet, and a lot of New Yorkers are happily splashing in their wake. What's bringing them together is the firm's temporary "dunescape," commissioned by P.S. 1 Contemporary Art Center and the Museum of Modern Art, and installed n the courtyard of P.S. 1 in Queens. The project is the first in a series of ive summer installations to be lesigned by young architects this ear and over the next four years.

"It's an urban beach," explains regg Pasquarelli, one of SHoP's ive partners. "We identified five programmatic events—cabana, beach hair, umbrella, boogie board, and urf—and injected them into the esign, causing it to bend and grow accommodate various spatial onfigurations."

Made from 6,000 2-by-2 cedar oards ranging in length from 8 to 2 feet and bolted together, the unescape rolls, twists, and slides create places to sit, wade, lounge, n, climb, and change from ousers into trunks. Water runs own the side into an 18-inch-deep ool that snakes along one edge, hile a second pool anchors nother part of the composition. urfaces tilt and roll, shifting from of to wall to bench to boardwalk. nbrellas dot the artificial landape, and 14-foot-tall steel poles ray cooling mist into the air.

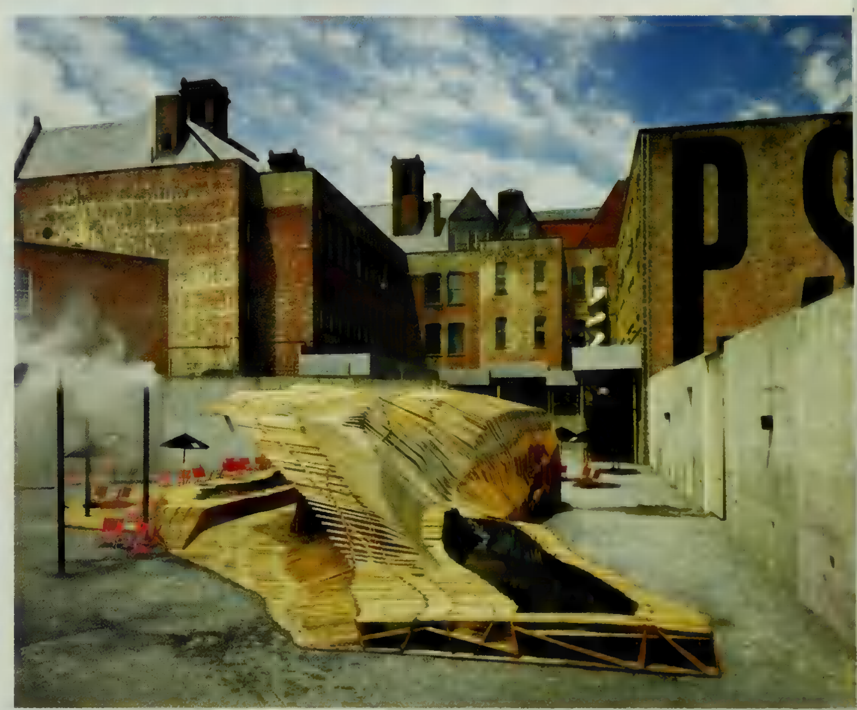
"We wanted to show how a ngle surface can mutate into each the functions," says Pasquarelli. hile the boogie board is incorporated metaphorically in the kinetic assemblage of cedar planks, the umbrella, cabana, beach chair, and surf are more literally found in the overhangs, tunnel-like interior, undulating surfaces, and pools. "The idea was to blend surface and structure, to dissolve boundaries and create a thickened space that expresses architectural technique rather than form."

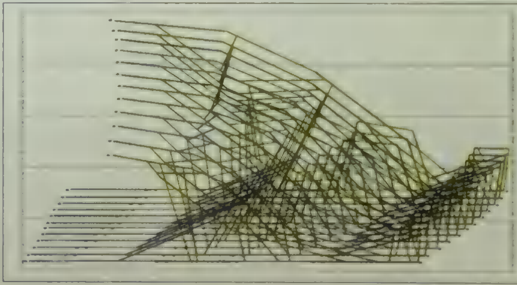
The project also "blurs the distinction between architecture and landscape," says Terence Riley, MoMA's curator of architecture and design, who was on the jury that selected SHoP from a list of 20 young firms recommended by editors of architecture magazines and deans of architecture schools. What most impressed Riley and many of the other jurors, he recalls, was the SHoP architects' "direct sense of taking an idea into built form. There was an ease of transition from idea to construction."

The way SHoP made that transition, however, was unconventional. Instead of working from plans, elevations, and sections, the firm developed 3-D computer drawings, which they nicknamed "CAT scans," and used them as construction documents. The unusual process included printing out color-coded drawings to a large size (28 by 15 feet), laying them out on the site, and using them as templates for the actual structure. A team of eight architects and architecture students cut the cedar boards and bolted them together in a few weeks, working within a total budget of $50,000.

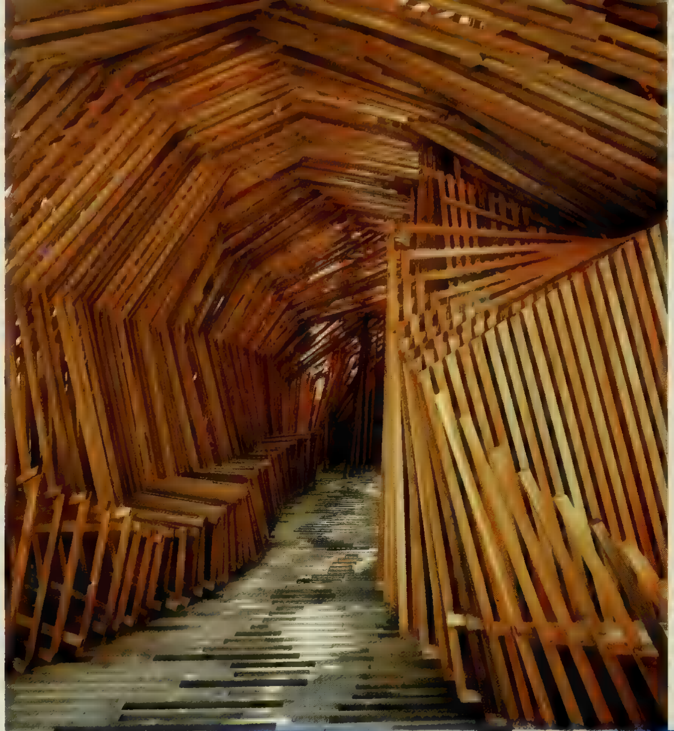
"We're interested in the translation from the digital to the actual," states Pasquarelli. "We want to build the same way we draw."

For all the highbrow talk, the project itself is remarkably tactile and direct. The mist in the air and wooden slats underfoot immediately kick up memories of warm summer days on the beach. Add to that the distinctive smell of cedar and you get a quick trip to the Jersey shore

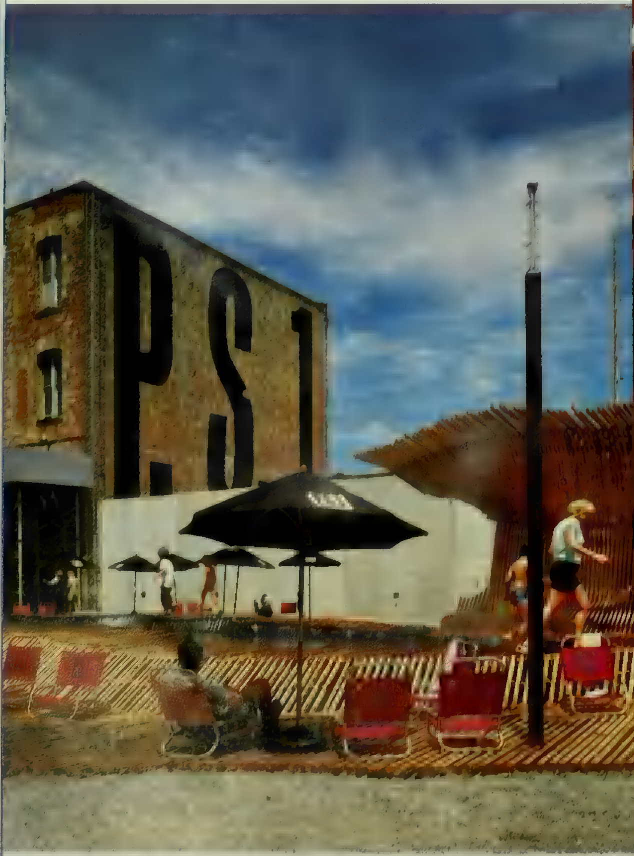


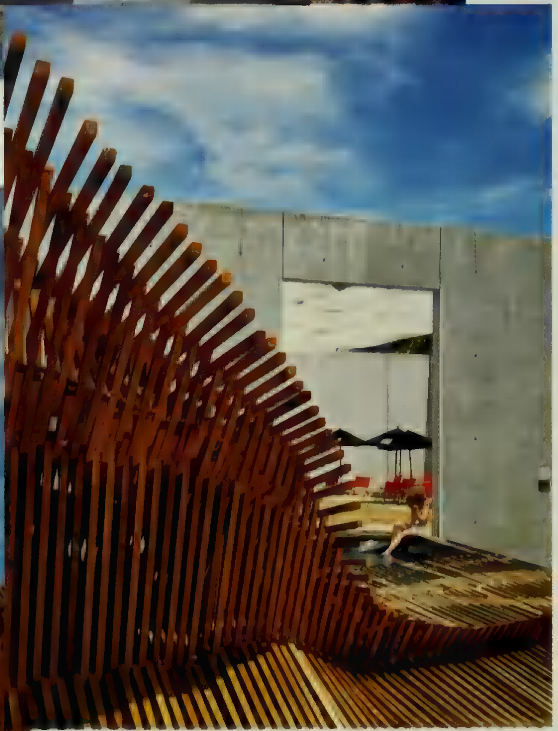


More than 6,000 cedar planks were used to build the dunescape in the courtyard of P.S. 1 (above). "CAT scan" drawings (right) were printed at jumbo size, laid out on the site, and used as templates for the actual structure.



A snaking bench and changing rooms are included inside the structure (right). The undulating surfaces of the dunescape accommodate a variety of human interactions, from lounging in chairs to sitting, walking, and sunbathing directly on the wood (below left and right).





Credits: *Christopher Sharples, William Sharples, Coren Sharples, Kimberly Holden, Gregg Pasquarelli, principals; Jonathan Mallie, Richard Garber, Kensuke Watanabe, project team; Jonathan Mallie, Jonathan Baker, Roberto Biaggi, Aaron Campbell, Keith Kaseman, Kris Lawson, Michael Nusso, Jamie Pallazolo, fabrication team*

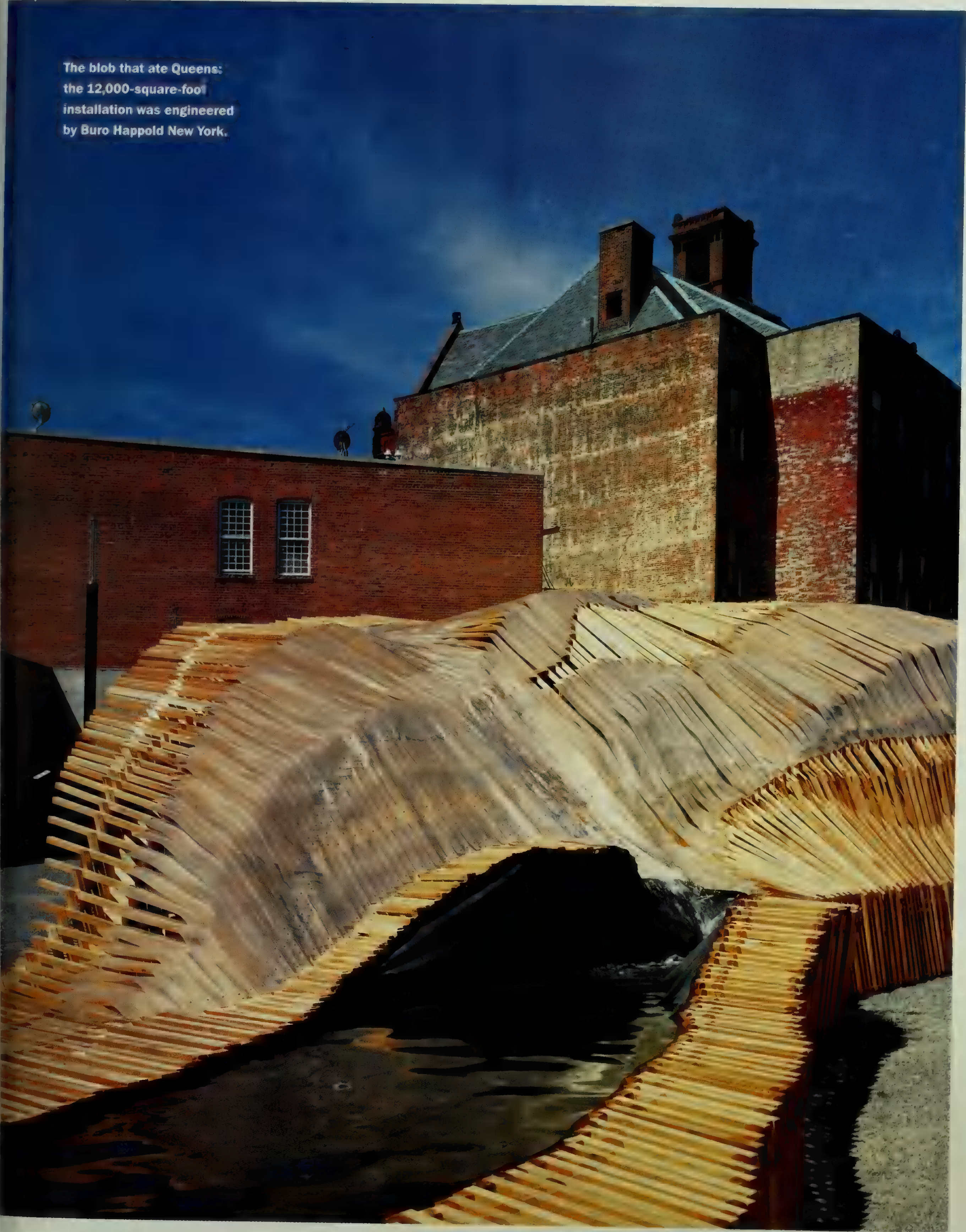
without leaving New York City. "It's a pretty rigorous theoretical project, but it's totally accessible to everyone," says Pasquarelli. "Everyone from 4-year-olds to 80-year-olds gets it." Indeed, a visit to the site shows kids splashing in the water, Manhattan fashionistas checking out the changing rooms tucked underneath the highest portion of the wiggling structure, and bevies of healthy bodies in various stages of undress.

"From the very beginning we worked on the idea of the body in contact with the architecture," says Pasquarelli. "This is a project that looks best when it's occupied. The more skin the better."

Skin happens to be a recurring theme in the work of SHoP. The firm is best known for its design for the forthcoming Museum of Sex in Manhattan. Wrapped in sensual layers of transparent, translucent, and opaque glass, the building will explore notions of voyeurism and exhibitionism in architecture. The firm is also working on a 200,000-square-foot shopping mall in Queens and two mid-rise apartment buildings.

Comprised of two married couples (William and Coren Sharples and Kimberly Holden and Pasquarelli), plus William Sharples' twin, Christopher, the firm is a family affair. Pasquarelli and Holden had worked f Greg Lynn before joining the Sharpleses, who started their firm in 1994.

A quick and cheap j the dunescape has been hit with the public and the press. "We see small projects like this as research," says Pasquarelli. "It's pa of our effort to invent new ways of drawing and building." Though sma the project required the architects to buy up all the cedar board to be found in the area. "I'm sure there are a lot of unbuilt decks in the Hamptons this year due to us." ■



The blob that ate Queens: the 12,000-square-foot installation was engineered by Buro Happold New York.

YOU TAKE CARE OF THE BUGS.
FE-36™ WILL HANDLE THE FIRES.

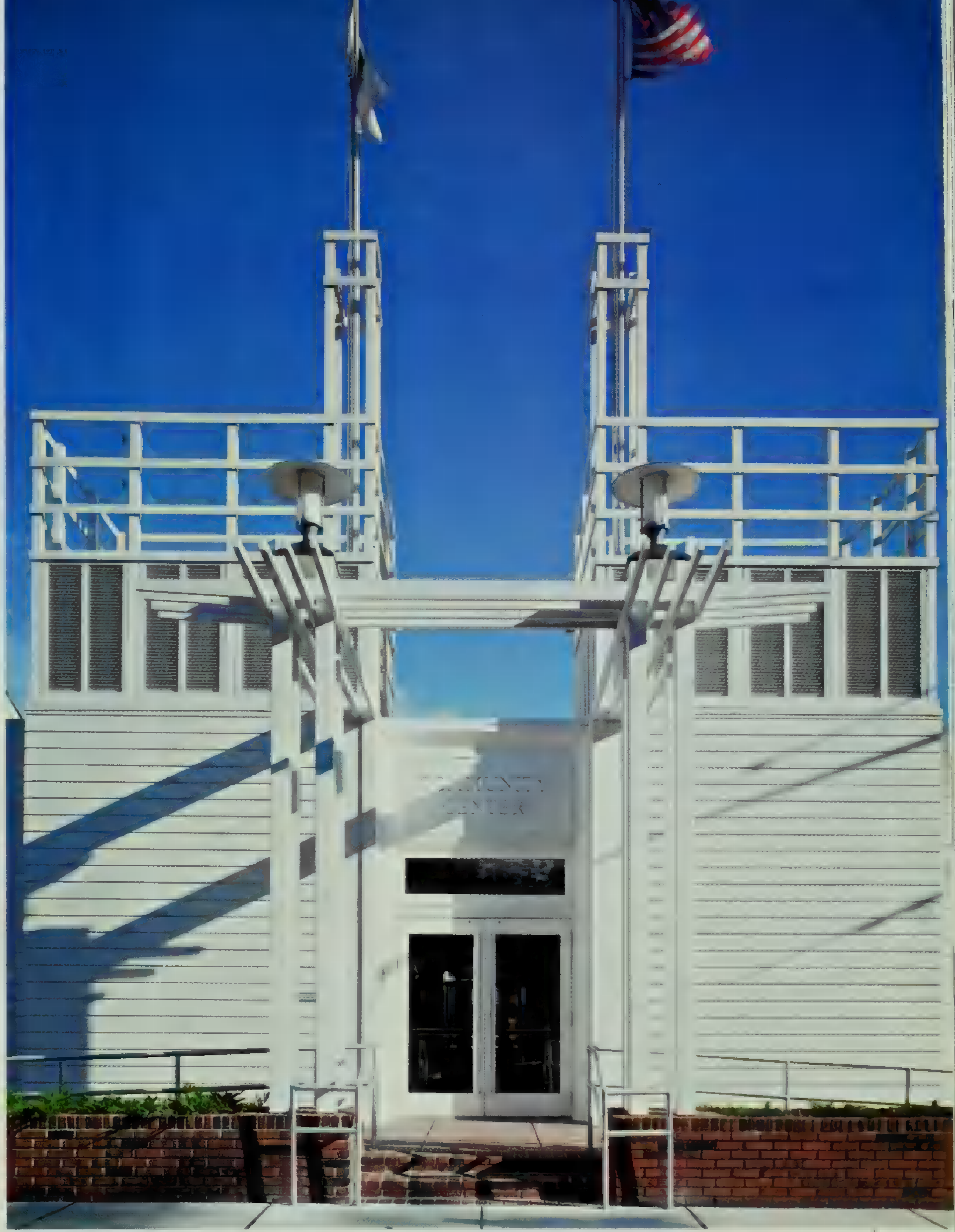
When you're working with sensitive assets like computer components, even a small fire can spell big trouble. Which is why you need DuPont FE-36™ in your portable extinguishers. It leaves absolutely no residue, minimizing clean-up and downtimes. Its low toxicity is good news for users and its lack of ozone depleting properties is good for everyone. And FE-36™ is globally available and universally effective on every kind of fire, making it the best clean-agent extinguishant, anytime, anywhere. For more information, call 1-800-473-7790 or visit our website, www.dupont.com/fire.

DUPONT

DuPont Fire Extinguishants

CIRCLE 34 ON INQUIRY CARD

Snapshot

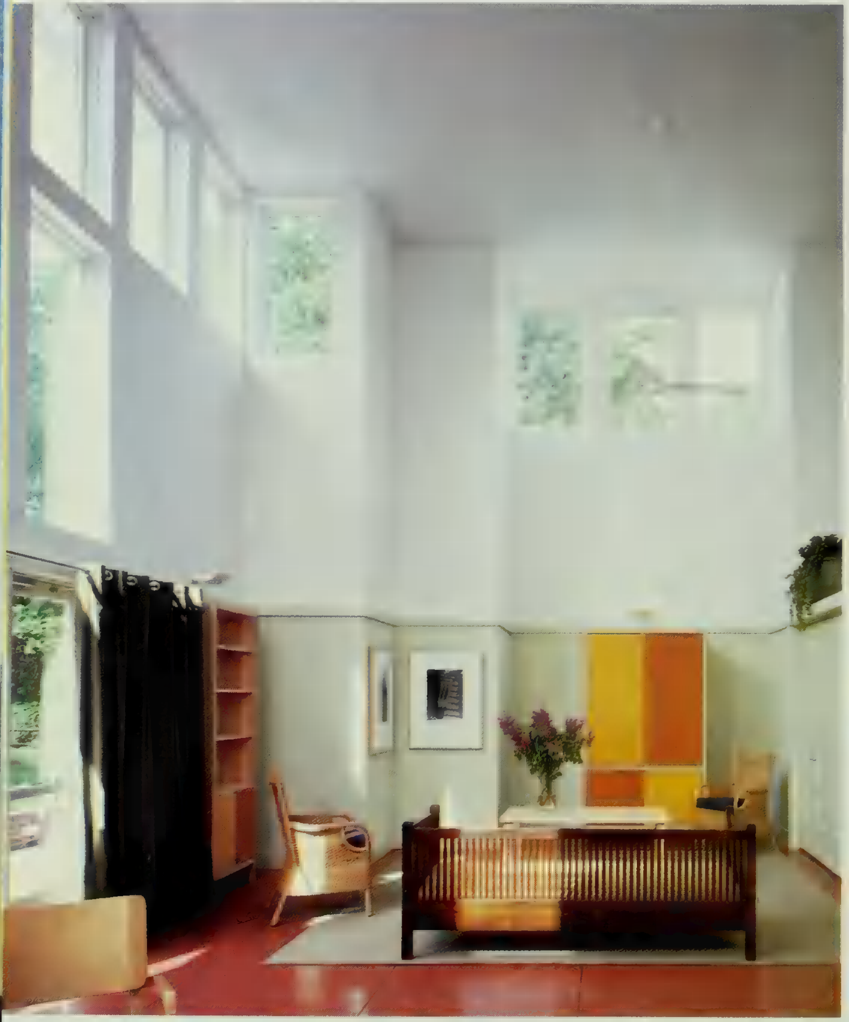


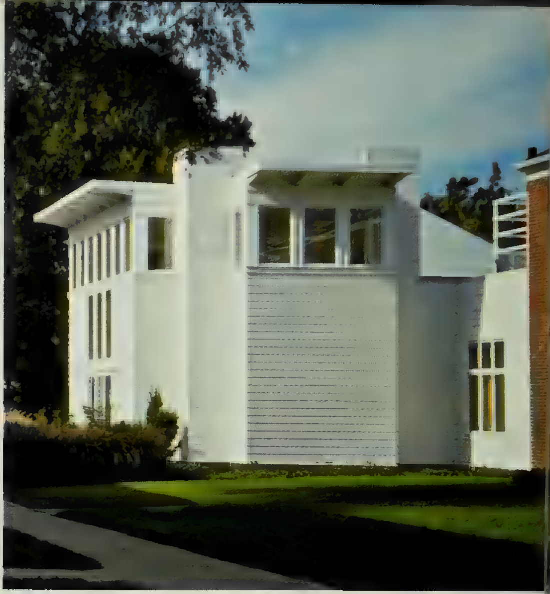
y Elizabeth Harrison Kubany

A community center that's majestically domestic

ow do you create a small, single-story infill building in a banal setting
d imbue it with a sense of importance? When faced with this prob-
n, New York City–based architect James Gauer looked to the man
o once called himself “the greatest architect in the world.” According
Gauer, Frank Lloyd Wright is a good precedent when designing a
all building that needs a sense of monumentality.

Gauer knew that the Lakeside Community Center in Woodbury, N.J., had to be, like Wright's Unity Temple in Oak
rk, Ill., simultaneously organic, so as not to overpower the suburban development in which it is located, and
ong, so it would be noticed among hundreds of two-story garden apartments. The program for the Lakeside
mmunity Center called for a simple, single-story building including a rental office, laundry, kitchen, toilets, lounge,
d community room. Gauer's challenge was to make a little building feel larger and more civic. “I had to do some-
ng interesting and eye-catching so the project would read as a public building,” he says. “Otherwise, it would





Investing a small single-story structure (above) with enough monumentality to read as a public building was a challenge. With 20-foot ceilings and oversize clerestory windows, the community room (left) accomplishes this in a scheme that evokes Wright's Unity Temple.

disappear into the endless sea of apartment houses."

Gauer used several tricks to make the building stand out. First, he massed the building as four distinct pieces: a low rectangular bar linking the adjacent buildings and containing most of the program; two towers that conceal mechanical equipment, create height, and mark the main entry; and the community room, rendered as a freestanding object, with articulated corners and projecting bays. The heights of these buildings vary from 8 to 20 feet to express the hierarchy of the spaces. He made the community room—the most important element in the program—double height so it would stand above the neighboring buildings. All of these pieces are clad with white shiplap siding that contrasts sharply with the red brick of the adjacent buildings.

Still, Gauer was careful to connect the new community center to its context. He situated all the pieces of his building on a plinth—red brick outside and red-tinted concrete inside—that acts as a visual link to the adjacent brick buildings. Moreover, while the white siding distinguishes the community center, it still relates to the existing gable ends of the brick housing. Despite the need to distinguish the community center from its surroundings, Gauer says, "I do believe in contextualism." The result is a building that defies its surroundings without denying them. It is a simple building that stands proud with its subtle monumentality. ■

Dens-Shield® Outperforms Cement Board and Makes Your Job Easier, Too.

Dens-Shield®	Cement Board
Weighs from 15lbs to 32lbs less per panel	Heavy, hard to handle
Surface moisture barrier protects tile installation and wall cavity	Needs moisture barrier to protect wall cavity
Easy and fast to score and snap with standard utility knife	Hard to cut, requires special tools
Cut-outs are simple and clean	Cutting leaves crumbly, uneven edges
Fastens close to edge; easy to apply to studs	Broken spalled edges make fastening difficult
Leaves no messy grit or abrasive residue	Cement grit can scratch and damage tubs and sinks

Dens-Shield®
THE ULTIMATE
TILE BACKER™
Georgia-Pacific

20 YEAR LIMITED WARRANTY

For a Professional Tile Installation
Engineered for use on walls, floors, countertops and ceilings

For immediate technical information call 1-800-225-6119

United States toll-free	Canada toll-free
Midwest 1-800-876-4746	Phone 1-800-387-6823
South 1-800-327-2344	Fax 1-800-387-8975
Northeast 1-800-947-4497	French 1-800-361-0486
West 1-800-824-7503	

or visit our website at www.gp.com/gypsum

eorgia-Pacific
33 Peachtree Street, NE
lanta, GA 30303

©2000 Georgia-Pacific Corporation. All rights reserved. DENS-SHIELD is a registered trademark and THE ULTIMATE TILE BACKER is a trademark of Georgia-Pacific Corporation. Durock is a registered trademark of United States Gypsum Corporation. Printed in the USA 6/00. COL Literature Item #102355

CIRCLE 35 ON INQUIRY CARD

Gable

Arched Chords

BUILDING A WI

University of Houston's indoor practice facility can be configured for football, track, tennis,

Development Manager: Hines Interests Design Architect: HOK Sports Facilities Group Production Architect: Kendall/Heaton Associates Structural Engineer: Walter P. Moore and Associates

PO Box 637, Brigham City, UT 84302, 435/734-9433   PO Box 100520 Florence, SC 29501, 803/662-0381   PO Box 169, Fort Payne, Al 35967, 2

Bow String

Scissor

NER.

eyball.

ilders Steel Fabricator: Eagle Fab Steel Erector: Postel-Smith Inc.

When the University of Houston built its new state-of-the-art Athletic/Alumni Center, a key element in the design was an indoor practice facility. Covering 84,000 square feet, it measures 420 feet by 200 feet and affords a clearspan height of more than 45 feet.

When planning this project, the architects and structural engineer were challenged by a very tight budget. Careful analysis determined that a braced structural steel frame featuring Vulcraft long-span bow string steel joists best met the design requirements. The joists span 197 feet between side wall frames, and range in depth from 120 inches at midspan to just 24 inches at bearing points. Vulcraft 3 inch deep, 16 gauge acoustical steel deck was also used to span between the joists and serve as a diaphragm to transfer lateral loads to the perimeter frames.

You see, Vulcraft is the largest supplier of steel joist in the country, including more than a dozen nonstandard designs, more than anyone in the industry. We've been making nonstandard joists for years and with our expertise, as well as our large inventory of steel, we make them quickly and economically. What's more, the earlier we get involved in the design stages, the better for the project. Because our experienced engineers can assist the project's designers and bring the end product in more quickly and at less cost than could be done with traditional methods. Just like we did for the University of Houston.

With Vulcraft nonstandard joists, you expand your design possibilities with all the benefits of steel joist construction: they're lightweight and easy to erect like standard joists and can be delivered when you need them.

See Sweet's 05100/VUL and 05300/VUL or contact any of our plants below. And make your next building a winner.

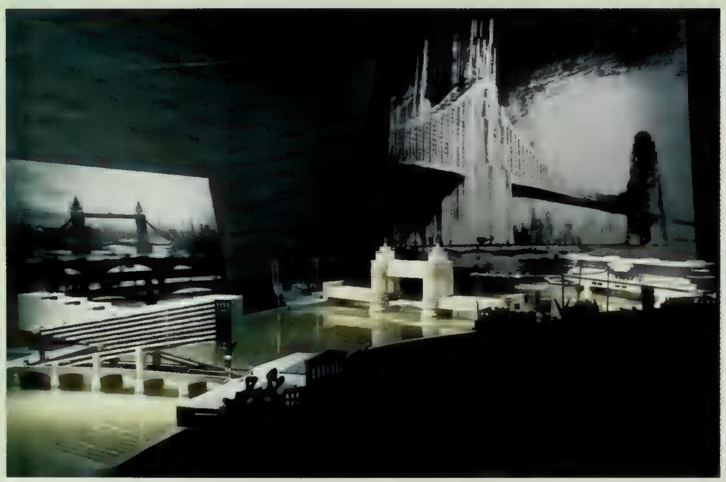
VULCRAFT
A Division of Nucor Corporation

CIRCLE 36 ON INQUIRY CARD

36, Grapeland, Tx 75844, 409/ 687-4665 PO Box 59, Norfolk, NE 68702-0059, 402/644-8500 PO Box 1000, St. Joe, IN 46785, 219/ 337-1800

Drawing a crowd to architectural exhibitions

The numbers say it all. And they are remarkable. What is luring the publ? Installation design provides one important clue.


1

1. *Living Bridges*, The Royal Academy of Arts, London, 1996
2. *The Triumph of the Baroque: Architecture in Europe 1600–1750*, National Gallery of Art, Washington, D.C., 2000
3, 4. Exhibit of Renzo Piano's work, Centre Georges-Pompidou, Paris, 1999.

2

3

By Thomas Mellins

Museum directors sense it. Curators have noticed it. For the last five years or so the general museum-going public has been increasingly drawn to architectural exhibitions. Attendance at the National Building Museum in Washington this year is likely to total around half a million people—an increase of about 40 percent over 1999. Susan Henshaw Jones, president of the National Building Museum, reports that three shows currently on view—*The White House in Miniature; Frank Lloyd Wright: Windows of the Darwin D. Martin House;* and *See the U.S.A.: Automobile Travel and the American Landscape*—are the most heavily attended exhibitions in the museum's 15-year history. To accommodate the increased number of visitors (70 percent of whom have no direct connection to the architectural or design and building professions), the museum doubled its exhibition space over the last three years. Attendance is up all over.

- In New York, 445,000 people visited the Museum of Modern Art's retrospective on the work of Alvar Aalto (1998) during its 14-week run. MoMA's *The Un-private House* (1999), featuring the work of contemporary architects, many of them young and not widely known to the public, attracted 219,000 people in the same amount of time; the exhibition also garnered significant media attention and, more important, created a palpable "buzz" around town.
- In Chicago, *At the End of the Century: One Hundred Years of Architecture* was the most heavily attended show held at the Museum of Contemporary Art's new building (designed by Josef Paul Kleihues and opened in 1996), attracting 71,300 people over a 10-week run from December 1999 to February of this year. Having previously traveled to Germany, Mexico, and Japan, the exhibition now promises to be a record setter at MoCA in L.A., where it will soon complete a 24-week stint.
- At the Royal Academy of Arts in London, a 12-week-long exhibition, *Living Bridges: The Inhabited Bridge, Past, Present and Future* (1996–97), was attended by over 113,400 people (with a daily attendance of around 1,350), becoming the most heavily visited architectural exhibition ever held in the United Kingdom. And in recent years the permanent architectural collection at the Centre Georges-Pompidou in Paris has

WITH WALKERFLEX AWS, YOU'LL FIND THERE'S A LOT MORE TO MODULAR WIRING THAN RAISED FLOORS.

Why limit your wiring to only one side of the floor? Like other modular wiring systems, Walkerflex® Advanced Wiring System feeds raised floors. But thanks to an exclusive connection system, you also have the option of feeding a wide array of other Wiremold applications. Tele-Power® poles. Wireways. Raceway. Wall boxes. They're all fully compatible with Walkerflex AWS, providing an unprecedented level of wire management applications flexibility – and significant labor savings vs. traditional pipe and box wiring. And Walkerflex AWS is also available in both 6-wire and 8-wire systems, for even more flexibility in meeting the most demanding workstation power requirements. Let Walkerflex AWS connect you with raised floors – or everything that happens above them. For more information, call a Wiremold representative at 1-800-621-0049 or visit www.wiremold.com

WIREMOLD®

Walker® Infloor Systems

CIRCLE 37 ON INQUIRY CARD

frequently drawn more visitors than the museum's permanent art collection. Additionally, new museums and galleries exclusively dedicated to exhibiting architecture have been established in France, Germany, Switzerland, Denmark, and the Netherlands.

What accounts for this recent popularity of architectural exhibitions? Massive media attention has granted "star" status to certain architects. But while museum directors and curators often disagree on what is stimulating current interest, they do agree on at least one point: mounting a successful architectural show is tough. The essential nature of architecture cannot be conveyed in an exhibition format, and absent the "real thing," the situation is worsened by the general public's shaky understanding of the architectural design process.

Given these drawbacks, it is noteworthy that a number of well-attended recent shows share certain features. One is the use of reproductions of walls, rooms, or complete buildings, at actual or reduced scales. MaryAnne Stevens, collections secretary and senior curator at the Royal Academy of Arts in London, notes that the R.A.'s room reconstructions for exhibitions on Tadao Ando (1998) and Sir John Soane (1999) proved to be particularly successful in drawing the public.

Scale models also tend to be crowd-pleasers. A current exhibition, *The Triumph of the Baroque: Architecture in Europe 1600-1750*, at the National Gallery of Art in Washington, D.C., featuring 27 architectural models, is a case in point. In the first six weeks, around 185,000 people visited the exhibition, located in a corridor gallery. Surprisingly, the show's average daily attendance of 4,307 was far in excess of 3,367 for *The Impressionists at Argenteuil*, also at the National Gallery.

Film, video, and computer-generated images can go a long way toward sparking interest and are thus becoming an increasingly significant part of architectural installations. Max Protetch, a New York art dealer who has mounted numerous shows on architecture, argues that MoMA's *The Un-private House* installation "might have been better than the work displayed. The presentation was just so sophisticated that the whole exhibition was a pleasure to experience. You could sense immediately how much the public enjoyed it." Alain Guiheux, a curator of the architectural collection of the Centre Georges-Pompidou, notes that in an upcoming exhibition, the work of Jean Nouvel will be presented exclusively through video images and slide projections, without the aid of any traditional drawings or models.

An installation should "be persuasive, startling, and seductive," according to Aaron Betsky, curator of architecture, design, and digital projects at the San Francisco Museum of Modern Art. "Most architectural exhibitions bore me," he bluntly adds. "They are so often ponderous and uninteresting." Suzanne Stephens, special correspondent to RECORD, states, "The installation must itself form a great space—an architectonic setting that's enlightening as well as enjoyable to be in."

Nicholas Olsberg, chief curator at the Canadian Centre for Architecture in Montreal, feels it is critical that exhibition-goers actively experience the space they are in, responding to an invitation to move into the center of a room, and "not merely walk along the walls, progressing through the show in a linear fashion." To create this spatial dynamic, a number of museums hire architects to design the installations, as the Royal Academy did with Piers Gough, for the Sir John Soane exhibition [November 1999, page 37]. MaryAnne Stevens points out that hiring architects to design architectural exhibitions is standard

1

1. *The Un-Private House,* MoMA, New York City, 1999
2. *At the End of the Century: One Hundred Years of Architecture,* MoCA at Geffen Contemporary, Los Angeles, 2000
3. *Carlo Scarpa Architect: Intervening with History,* Canadian Centre for Architecture, Montreal, 1999

3

2

YOU DON'T HAVE TO BE FAM
TO CREATE A MASTERPIECE

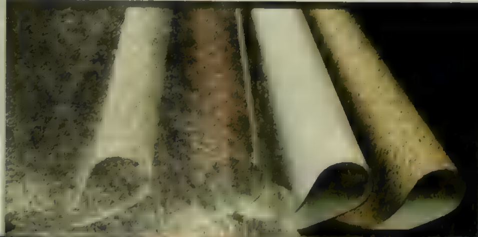
16th CENTURY STONE
Project: **St. Peter's Basilica**
Designer: **Michaelangelo**
Product: **Marble & Travertine**

The greatest church of Christendom was begun in 1506 under Pope Julius II. It had 13 chief architects, including Michaelangelo, who held the post until his death in 1564. The top of its cupola rises 435 feet above St. Peter's Square, almost 150 feet taller than the U. S. Capitol.

21ST CENTURY STONE
Project: **Capital Commons**
Architect: **Smith, Hinchman & Gryllis Associates, Inc.**
Product: **ALPOLIC® Red Granite**

This seven-story, six-year-old building was reclad with ALPOLIC STONE SERIES,® utilizing a dry gasketed aluminum composite panel system. The entrances were clad with ALPOLIC® red granite stone series aluminum composite material that weighs only one pound per square foot.

Like Michaelangelo's creations in marble, we have taken aluminum composite materials to new heights. In f we're the leader in offering new and innovative products that can help you realize your visionary designs. ALPO was the first to embrace PPG/MEGAFLON,® a high-performance fluorocarbon, as our primary paint finish. We w the first to offer a virtually endless palette of colors limited only by a designer's vision. Now we've broadened line to offer you such unique products as our ALPOLIC STONE SERIES,® our ALPOLIC A-LOOK® reflective mirror faces and our ALPOLIC ISD® interior products that simulate wood and stone finishes. When you have a vision the 21st Century, create your masterpiece with ALPOLIC products.



ALPOLIC®
Helping You Create Today's Masterpieces

For more information, call 1-800-422-7270
or email us at www.alpolic.com

©2000 Mitsubishi Chemical America, Inc

CIRCLE 38 ON INQUIRY CARD

practice at the R.A.—as it is with many museums.

Often curators try to make the installation evocative of the work being shown. Terence Riley, chief curator at the MoMA's Department of Architecture and Design and himself an architect, attempted such in 1994 with *O.M.A. at MoMA: Rem Koolhaas and the Place of Public Architecture.* In order to suggest the exploration of urban issues lying at the core of Koolhaas' work, Riley used illuminated panels similar to those seen in bus shelters. Additionally, Riley mounted large-scale drawings directly to the wall—like billboards—rather than framing them like traditional art objects.

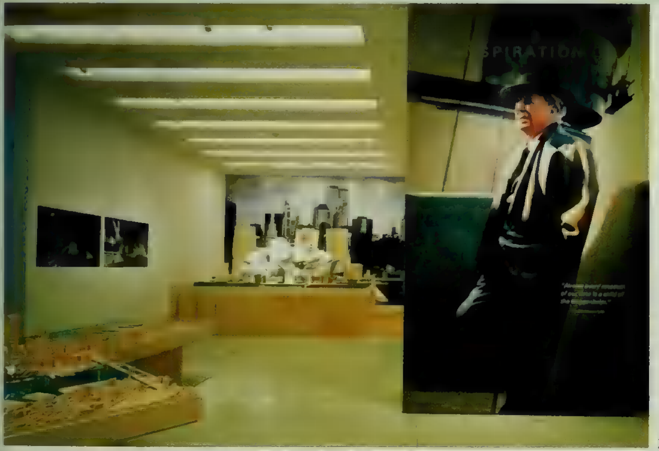
One popular approach to the design of monographic exhibitions is to have the featured architect create the installation. Sometimes the results can be dazzling, as many thought was the case with Renzo Piano's recent exhibition of his own work at the Centre Georges-Pompidou. Complete with binders of conceptual drawings and notebooks, the multilayered exhibition attempted to provide the viewer with insight directly into the architect's design process. The Piano show seems to be in accordance with the concept articulated by Nicholas Olsberg that a monographic show "should not be merely to say someone was a great architect. Rather, it should be something far more fundamental. The exhibition should tell us: this is what an architect does; this is what an architect thinks about; this is the process through which an architect's thoughts are developed and ultimately get realized as buildings."

Project for a New Guggenheim Museum in New York City, a show currently on view at the Solomon R. Guggenheim Museum, was designed by museum staff and constitutes an interesting case study for today's architectural exhibitions. The exhibition, which occupies a double-height white-walled gallery in the museum's addition (1992), designed by Gwathmey Siegel, is reached primarily by a passageway leading from the ramp of the Frank Lloyd Wright building.

In its first 12 weeks, the exhibition was visited by approximately 223,600 people. Yet few of the visitors interviewed had made the trip to the museum for the express purpose of seeing the Gehry show. Once at the museum, however, many commented that, having seen images of the museum in Bilbao, they were curious about what was planned for New York. Others noted an interest in Frank Gehry's work in general. Some stumbled upon the exhibition or glimpsed it from the ramp.

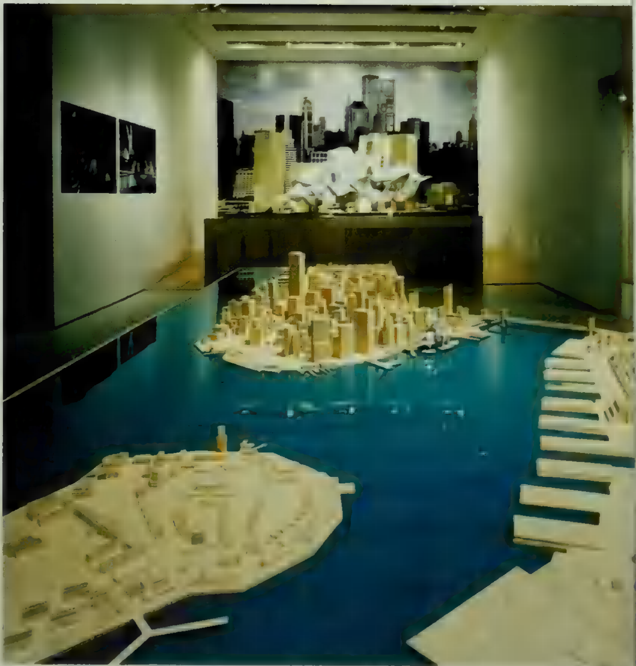
Upon entering the gallery, a visitor encounters wall text describing the project's history, and finds the exhibition is divided into six sections—"Inspiration," "Program," "Process," "Precedent," "Site Impact," and "Project"—presented on the gallery walls in a clockwise fashion. The first image the visitor confronts is a larger-than-life image of Frank Lloyd Wright illustrating "Inspiration." "Program" is then presented in a mural-like, 50-section grid, with panels containing visual images, text, and quotations from sources as disparate as Wright, Rem Koolhaas, and André Malraux. "Process" details the project's phases in photographs, text panels, and models.

"Precedent" is composed of a large blown-up photograph of the Guggenheim in Bilbao, upon which are written adulatory quotations about the building's significance. A poetically shot video of the museum, about five minutes long, runs continuously, accompanied by lyrical, modern music. Additionally, a freestanding model of the museum occupies a key portion of the gallery's open space. The section "Site Impact" compares the completed museum in Bilbao with the pro-

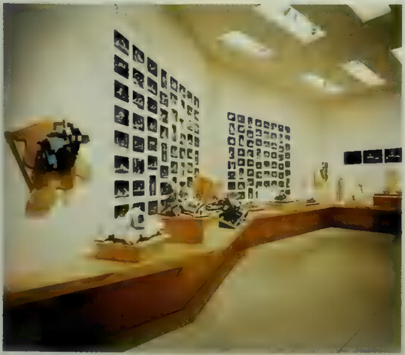


1

2



3



***Project for a New Guggenheim Museum, New York City,* Guggenheim Museum, New York City, 2000. Exhibition is divided into six sections—pictured here are 1 Inspiration; 2 Site Impact; 3 Program**

GREAT BUILDINGS DESERVE GREAT DOORS!

Building:
VONTZ CENTER For Molecular Studies
UC MEDICAL CAMPUS—CINCINNATI, OHIO

Architect:
FRANK O. GEHRY
BAXTER HODELL DONNELLY PRESTON

Main Contractor:
DUGAN & MEYERS

Doors Specified:
CECO DOOR PRODUCTS

GREAT BUILDINGS DESERVE CECO DOORS.

Ceco Door Products
A United Dominion Company

CIRCLE 34 ON INQUIRY CARD

Proving our leadership . . . everyday

7511 Old Hickory Boulevard • One Brentwood Commons, Suite 150 • Brentwood, TN 37027 • (615) 661-5030; FAX (615) 370-5299 • www.cecodoor.co

posed museum in lower Manhattan, and also presents a freestanding site model for the New York project in the gallery's central space. The exhibition concludes with the "Project" section, consisting of floor plans and a model, approximately 8 by 12 feet, of the proposed museum. The impressive, "grand finale" model of the proposed Guggenheim in New York terminates the room-long axis originating at the gallery's main entrance.

Most visitors circulate through the grid freely, deviating from the suggested path. Some quickly survey the room and leave, but many stay about 15 to 20 minutes, or longer. Most of the museum-goers interviewed enjoyed the exhibition. An architect from New Jersey found the Guggenheim New York model to be "mesmerizing," stating that the scale was very important because "you can really lean in there and get a sense of what it would be like to walk around and occupy the building." Others commented that they enjoyed being in the gallery space, and several who were not in the architectural profession noted that the installation looked like what they imagined an architect's office, or a studio in an architecture school, to be.

Despite such positive reactions, some people found aspects of the exhibition confusing or insufficient. Basic points failed to come across. For example, a security guard noted that many people thought the proposal had already been realized and asked where they could go to see it. Many people said they would like to see more text, but paradoxically some of those same people commented that they had not read all of the text that had been provided. One student commented that the overall tone of the exhibition "smacks of marketing, not architectural history" and the music "wafting through the room reminds me of being in Prada Sport." Indeed, the exhibition does seem to have an aspect of marketing, or at least constituency building; many of the comments written into the guest log stated support for the project but did not address the exhibition itself.

Opinions vary widely about the overall effect of recent architectural exhibitions on the museum-going public in general. Michael Sorkin is skeptical as to whether exhibitions are nurturing what he calls "a sensitized client culture." He contends that for many Americans, Home Depot, with its "post-Pompidou parti of an encyclopedic array of objects deployed within a undifferentiated grid," constitutes a kind of architecture museum. Bob Vila, Sorkin hypothesizes, "may well be as influential as any architectural curator."

Nicholas Olsberg also questions the impact of architectural exhibitions. "More people may be attending architectural exhibitions today," he states, "but architectural literacy among the literate class is no better than it was 15 years ago, and not nearly as high as it was 25 to 30 years ago. Noting that historically, architectural exhibitions were like trade shows that allowed architects to see and discuss each other's work, Olsberg goes as far as to ask, "Should we be exhibiting architecture to the public at all?"

A few of the effects of recent architectural exhibitions are clear and quantifiable. The traveling exhibition *The Work of Charles and Ray Eames: A Legacy of Invention* (1997–2000) generated greater name recognition for the late couple among the general public, higher prices for their work in the auction market, and greater demand for their mass-produced furniture and fabrics.

Exhibitions also can affect public *(continued on page 238)*

1

1. ***Stay Cool! Air Conditioning America,*** **National Building Museum, Washington, D.C., 2000**
2, 3. ***John Soane Architect,*** **The Royal Academy of Arts, London, 1999**

2

3

Oh, the Housing

Kingsboro Towers
Gloversville, N.Y.
Leonard Feldman

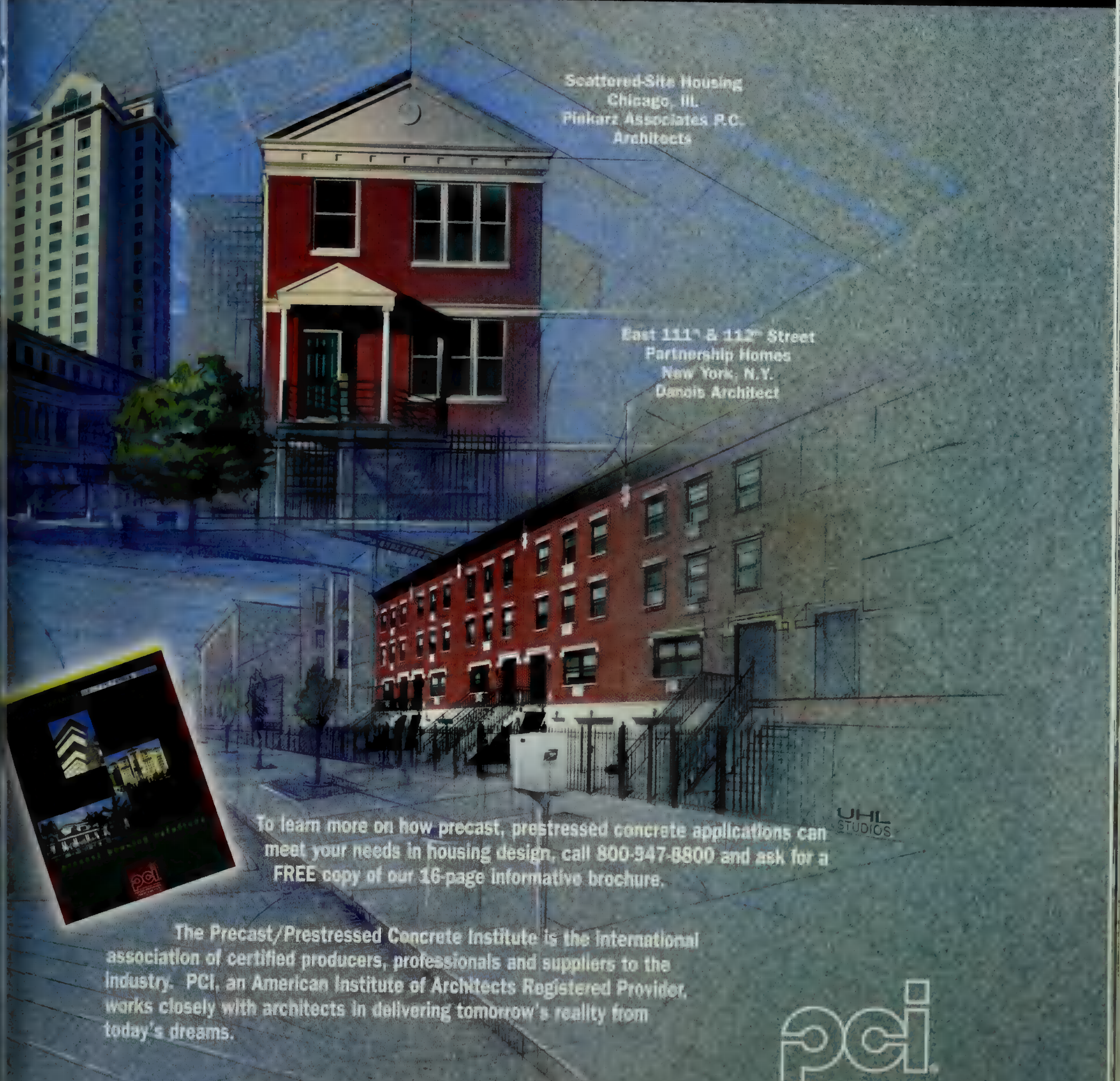
Fairmont Hot
San Jose, Cal
HOK San Franc

...of precast, prestressed concrete. It's the design community's most versatile material, both in structural and architectural construction. Proven time and again in apartment houses and single-family homes, hotels and motels, dormitories, healthcare and retirement facility applications...precast, prestressed concrete has found a home in housing.

Dominican College
Residence Hall
Orangeburg, N.Y.
Einhorn Yaffee Prescott P.C (EYP)

1-800-947-8800 · www.pci.org

Design Possibilities...



To learn more on how precast, prestressed concrete applications can meet your needs in housing design, call 800-947-8800 and ask for a FREE copy of our 16-page informative brochure.

The Precast/Prestressed Concrete Institute is the international association of certified producers, professionals and suppliers to the industry. PCI, an American Institute of Architects Registered Provider, works closely with architects in delivering tomorrow's reality from today's dreams.

cast Concrete...Your Design Option!

PRECAST/PRESTRESSED
CONCRETE INSTITUTE
209 West Jackson Boulevard
Chicago, IL 60606
E-Mail: info@pci.org
CIRCLE 10 ON INQUIRY CARD

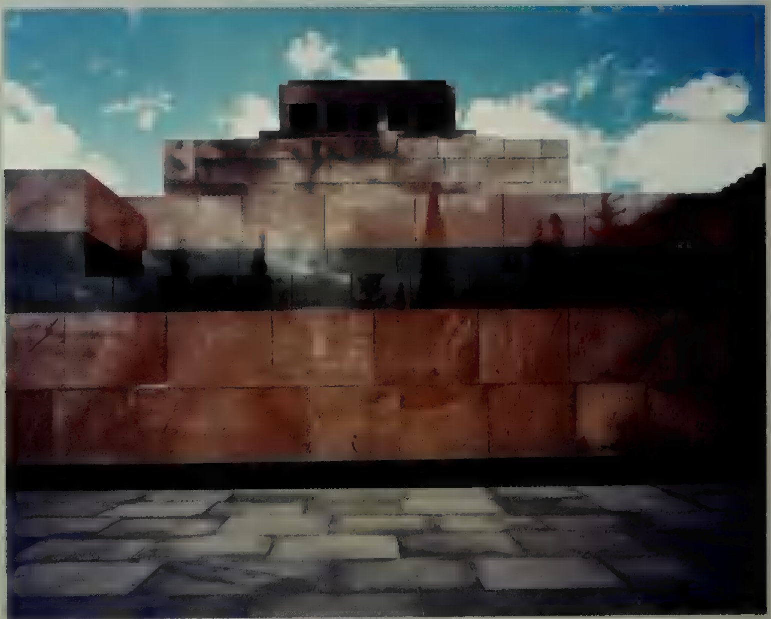
Rediscovering the Soviet Modernist buildings that time and history almost forgot

PHOTO ESSAY

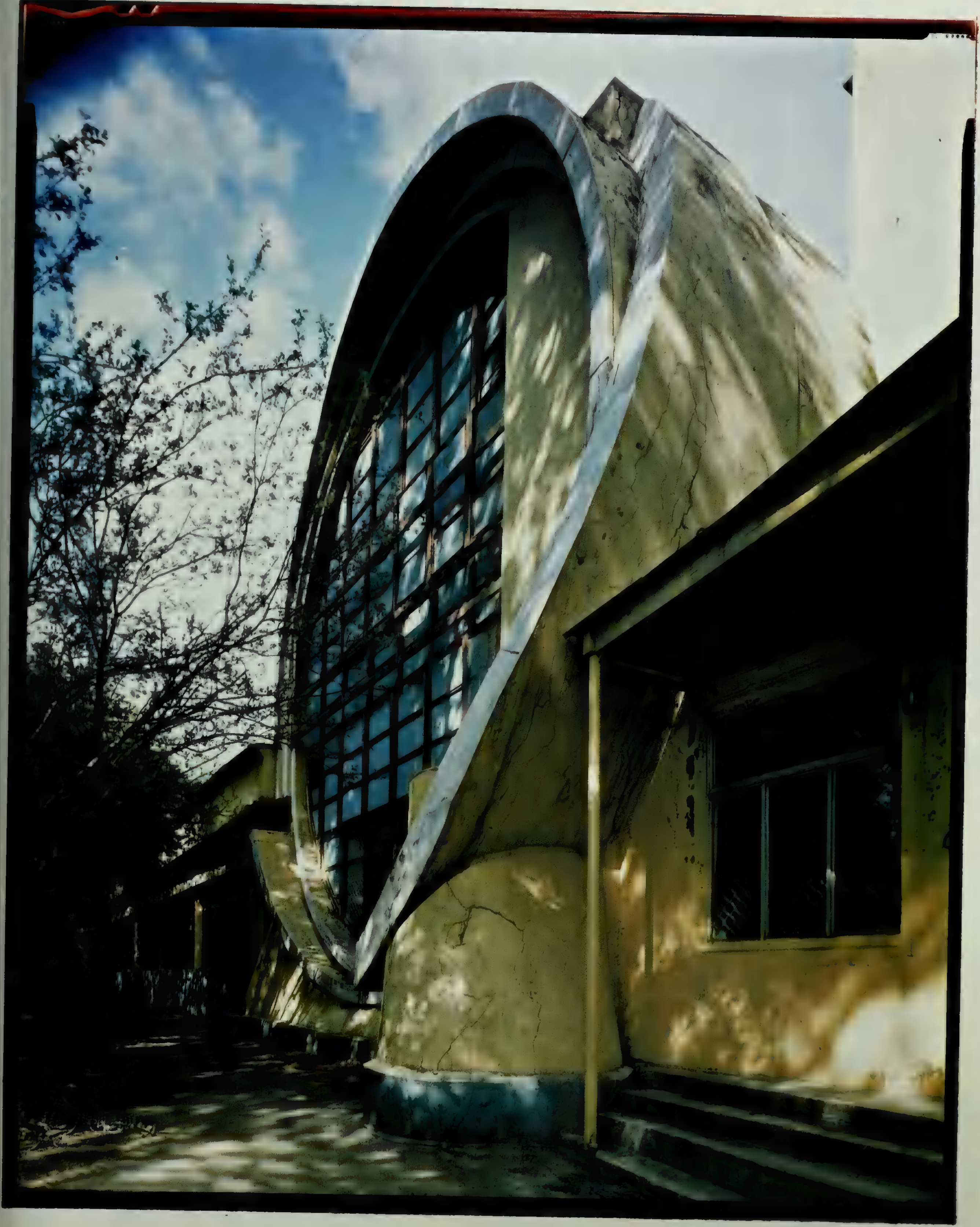
by Richard Pare

During my first visit to Russia in 1993 I discovered buildings illustrating a wealth of Modernist ideas designed immediately after the Russian Revolution. Although I was familiar with the most famous structures of this period, I began to realize that other important buildings were virtually unknown in the West. Many of them represent a level of architectural expression that is far deeper than what one might imagine, considering the slender resources available at the time. In fact, many of the buildings that employ a strong Modernist vocabulary were constructed using centuries-old methods: chopped straw served as insulation, and partition walls were constructed from rough-sawn timber covered with lath and plaster. The radical architecture of this new age fell out of favor after only one decade. With the ascent of Stalin in 1932, it was deliberately pushed into obscurity, replaced by Soviet Neoclassicism, which dominated until the collapse of the Soviet Union. Little maintenance was done on any but the most politically prominent buildings during this period. As a result, in many cases it is still possible to see the purity of expression and the remarkable vigor of Modernist thought as it was at the time of the buildings' construction. But many are now in such a precarious state that it is no longer possible for them to survive. Others are barely recognizable. The condition of others is preserved by those who live in them and do what they can to arrest the depredations of the Russian winters. I took the photographs shown here over the course of seven extended journeys, from the Baltic to the Black Sea and from Moscow to the Urals, in search of the forgotten Modernist legacy of these years.

Richard Pare studied photography at the Art Institute of Chicago and was awarded an M.F.A. in 1973. He was appointed curator of the Canadian Centre for Architecture in 1974 and remains a consultant to the collection. He is the author of several books, including The Colours of Light: The Architecture of Tadao Ando. *The work represented here is from his forthcoming book on Soviet Modernism. He wishes to acknowledge the support of the Ministry of Culture of the Russian Federation and the Canadian Centre for Architecture for assistance with the project.*

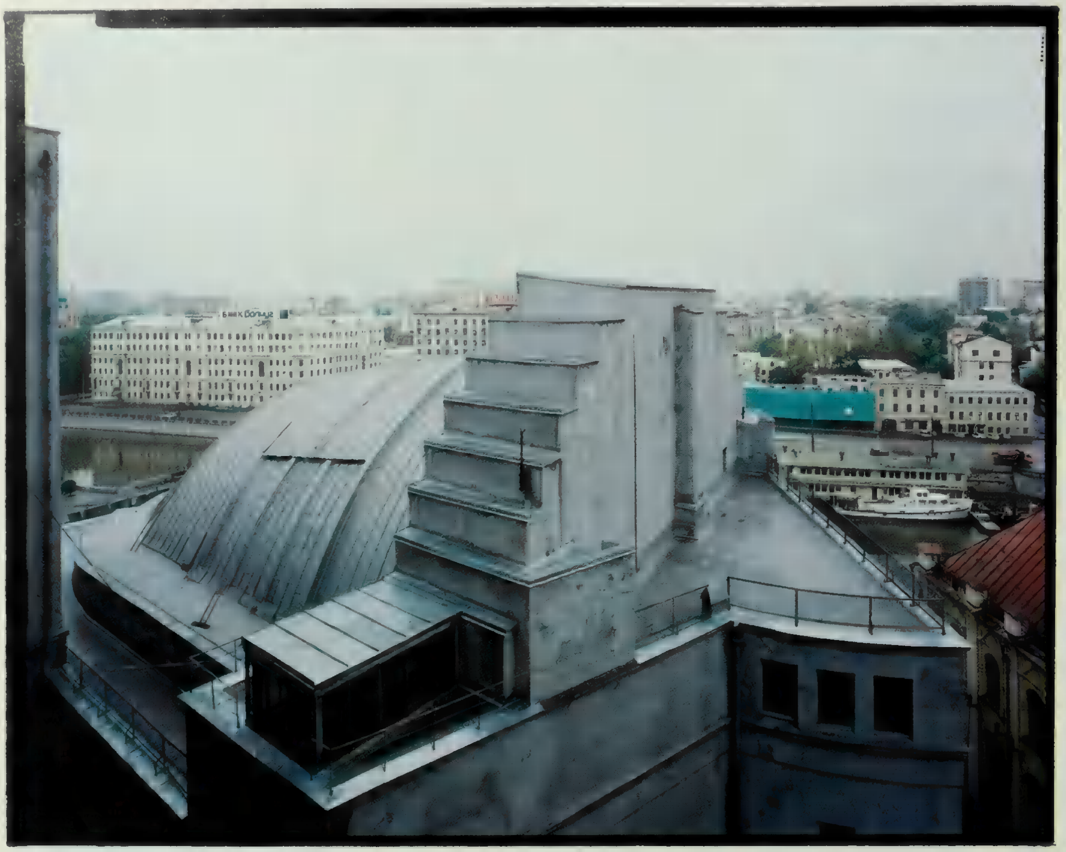


Above: The south facade of the Lenin Mausoleum by Schusev was completed in 1931. The highly polished granite facade reflects the towers of the Moscow Kremlin and the building that was until recently the Lenin Museum.



Above: **Melnikov and Schukov's truck garage for Mossovet, Moscow, 1926–29, remains one of the most original buildings of the period. It continues to operate as a garage and spare-parts dealership.**

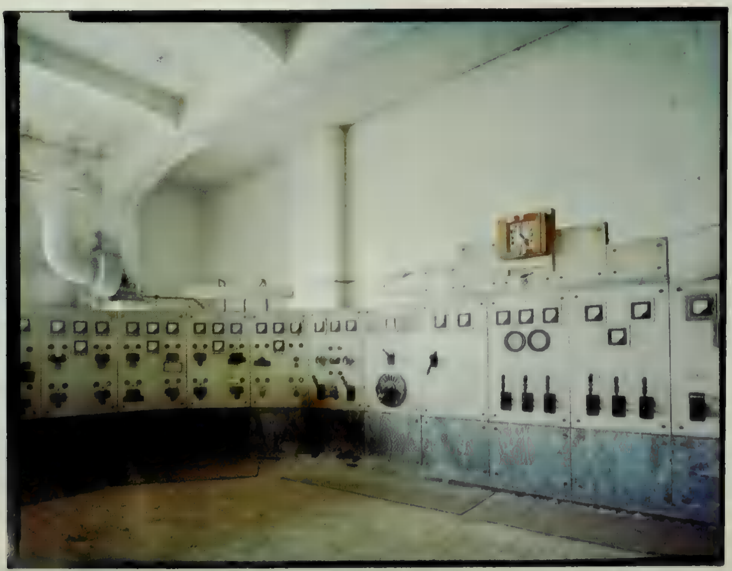
Below: **Roof of the Udarnik movie theater by Iofan, Moscow, 1928–31.**



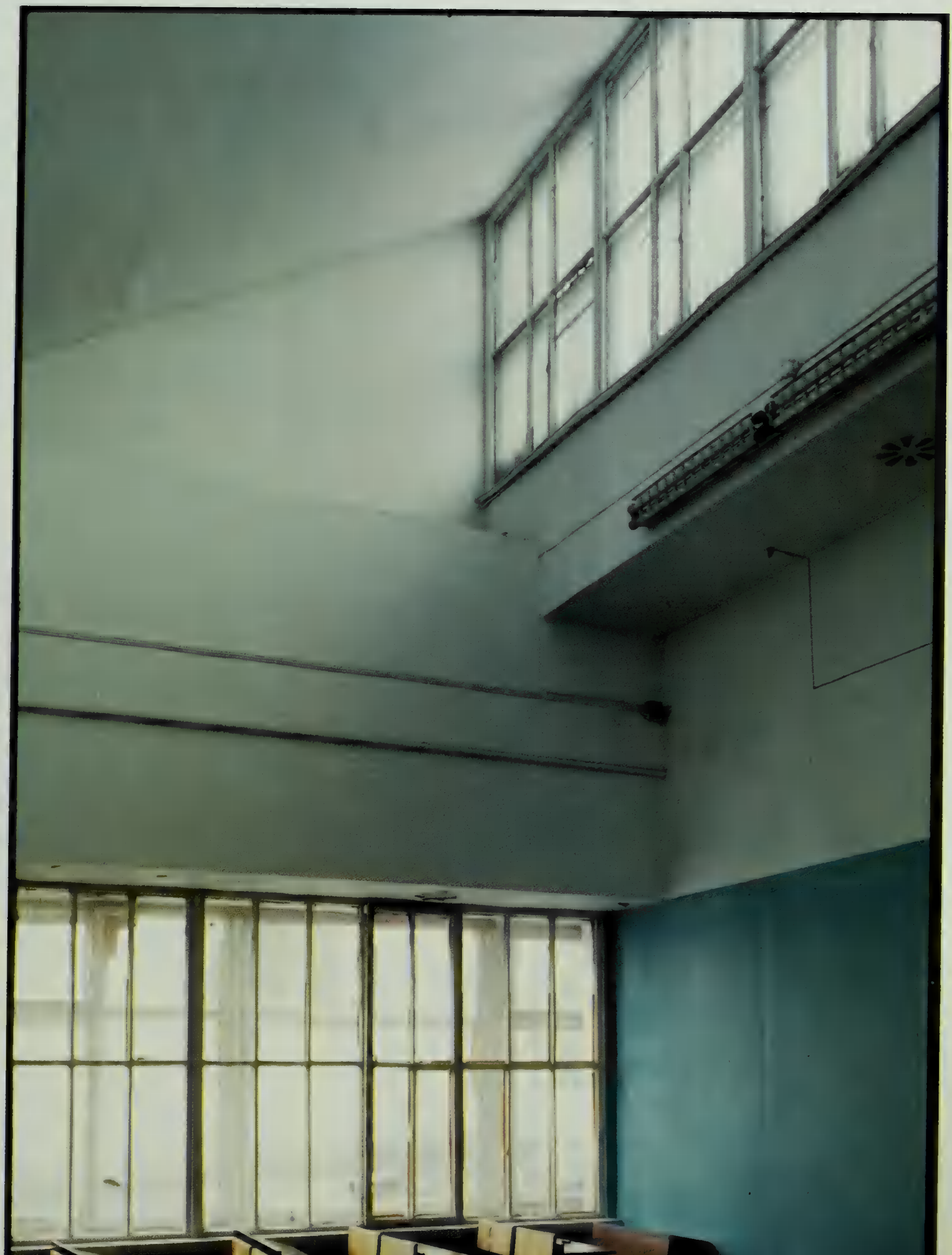
The roof of this movie theater was photographed from the window of an apartment belonging to the widow of an important atomic scientist. The building that houses the theater is part of the great complex across the river from the Kremlin. Originally built for the party elite, it is still considered an address of status.

Below: **Switchboard for the Red Flag Textile Factory powerhouse by Erich Mendelsohn, St. Petersburg, 1926.**

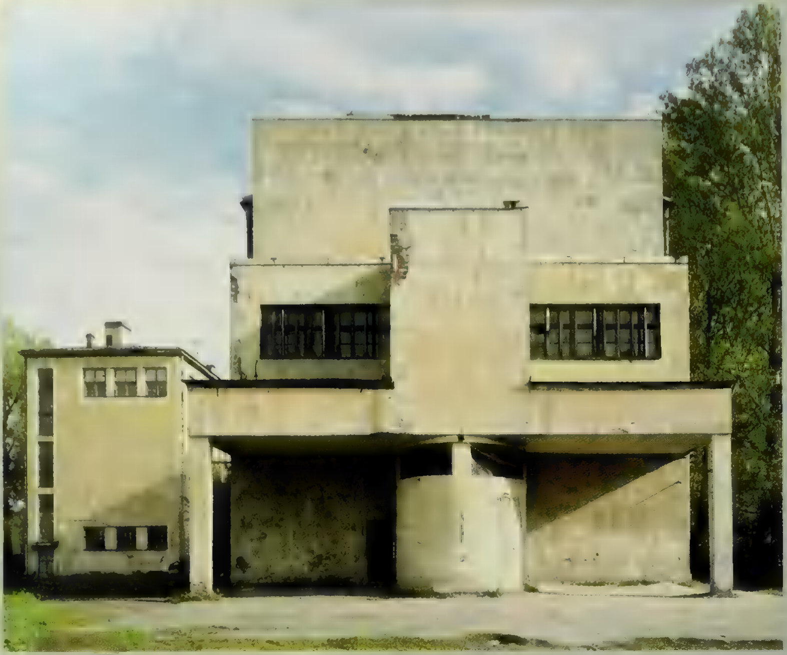
The factory continues to operate with most of the original machinery in place. The powerhouse (see exterior photo, page 83) was originally fueled by coal but was later converted to oil. It operates only when the factory has orders, which are now scarce. Originally, the whole factory was designed by Mendelsohn, but only the powerhouse was realized.



Below **Dormitory for students of the Textile Institute by Nikolaev, Moscow, 1929–30.**



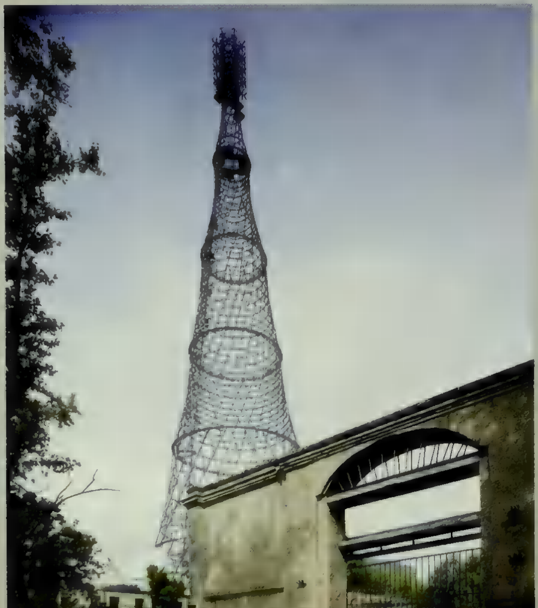
Now in an extreme state of disrepair, the dormitory building is undergoing a period of uncertainty. Three years ago the accommodation wing was completely gutted as if for renovation, but no work has been done, and with the windows missing the effects of the weather are hastening deterioration.



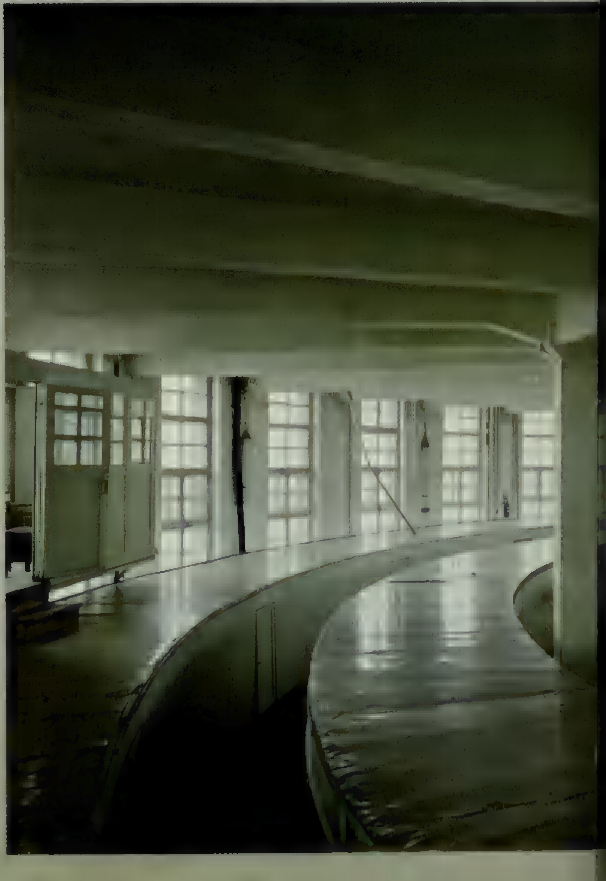
Above: **Gymnasium of the Tkachei Street Secondary School, by G. Simonov, St. Petersburg, 1927–29. Still used as a school, the building remains essentially unaltered both on the exterior and inside. The balcony overlooks the football grounds.**

Doctors' Building apartment complex (opposite right) at 17 Bolshaia Zhitomirskaia St., Kiev. Designed by P. Aleshin, 1928-30. This building epitomizes the softer Modernist language of t architects of the Ukrain school. The architect's s continues to live in the building.

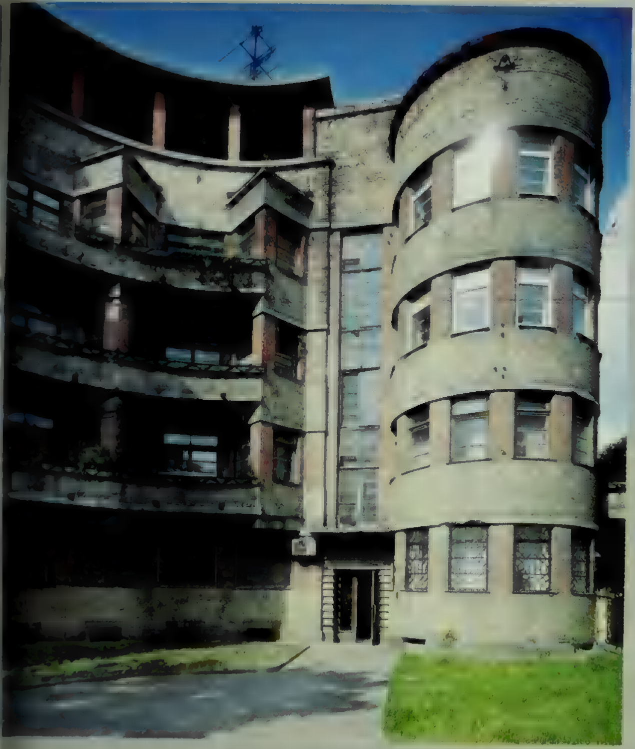
The proofing floor of a four-story circular bake (below) is remarkably e cient in its design. The dough is mixed on the t floor and "proofed," or l to rise, on the third, usi heat from the ovens on second. The finished br is distributed to the city from the first floor. The bakery is still in use tod



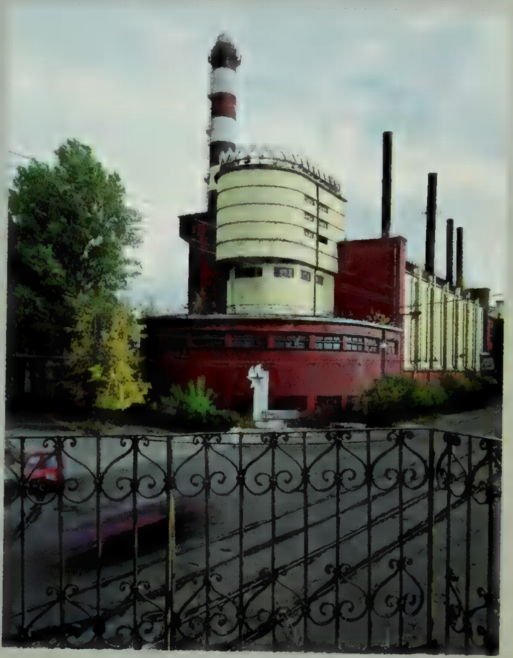
Above: Shabolovka Radio Tower by Schukov, Moscow, 1922. This transmitter, the herald of the Revolution, is still a prominent landmark on the Moscow skyline, and continues in its original function. Its airy elegance is exhilarating: From a low, circular foundation, it appears to spring out of the ground and ascend helical spirals.



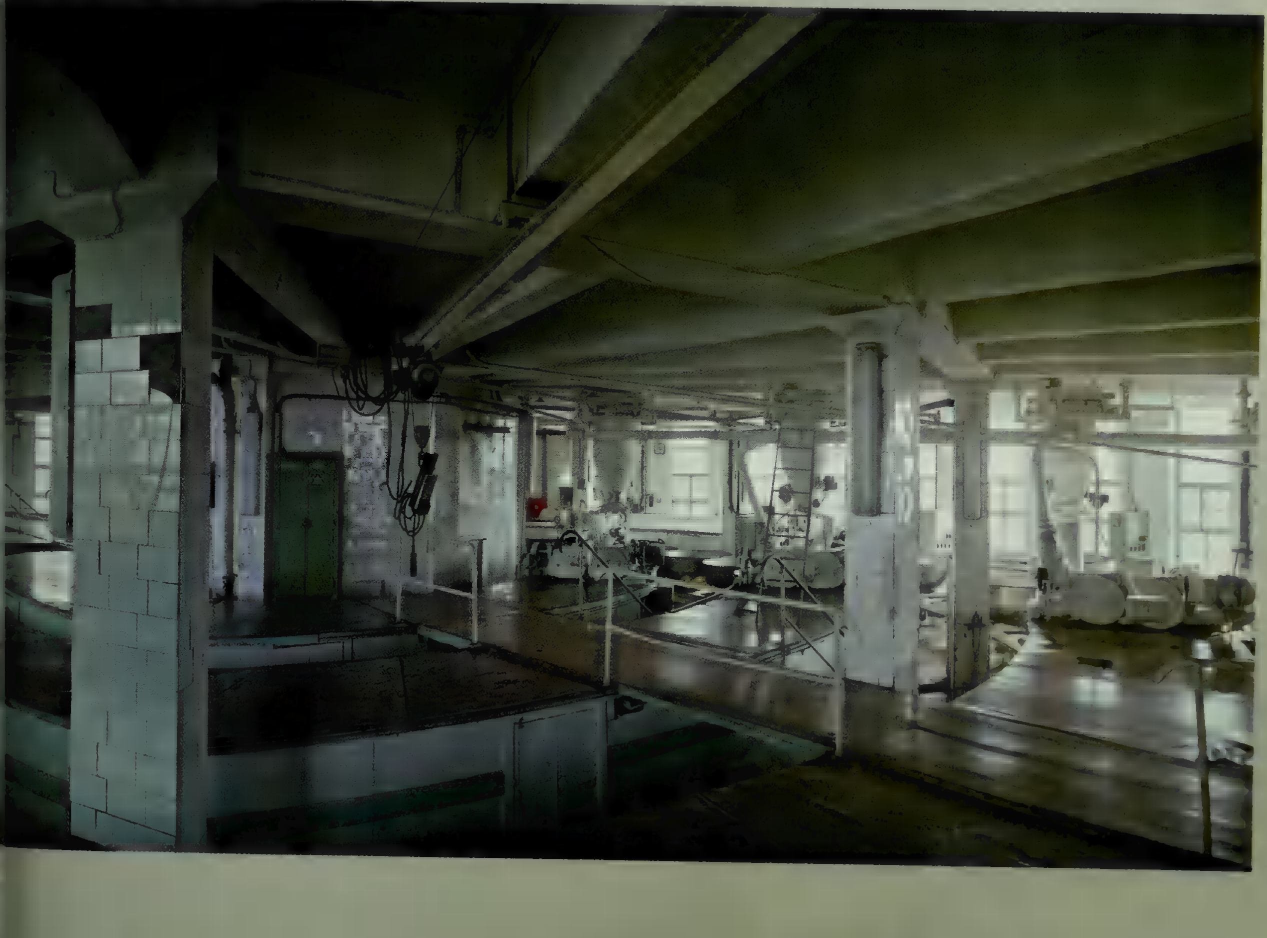
Below: Red Flag Textile Factory powerhouse by Erich Mendelsohn, St. Petersburg, 1926. The building stands in a quiet part of the city and has an almost maritime quality. The large chimney is not shown in the original model of the project.



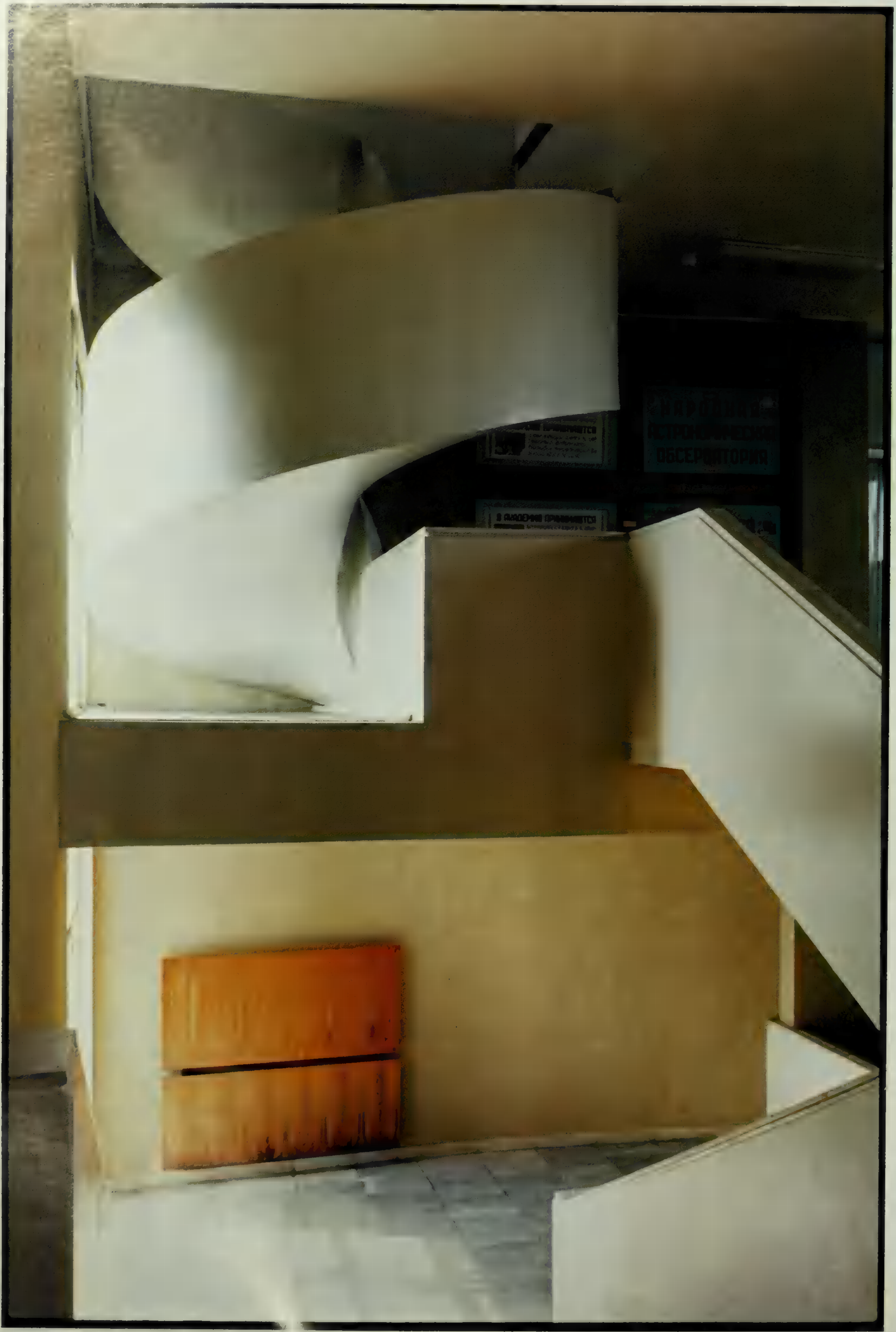
Above: Doctors' Building apartment complex by P. Aleshin, Kiev, 1928.



Below: Bakery, architect unknown, Moscow, 1928.

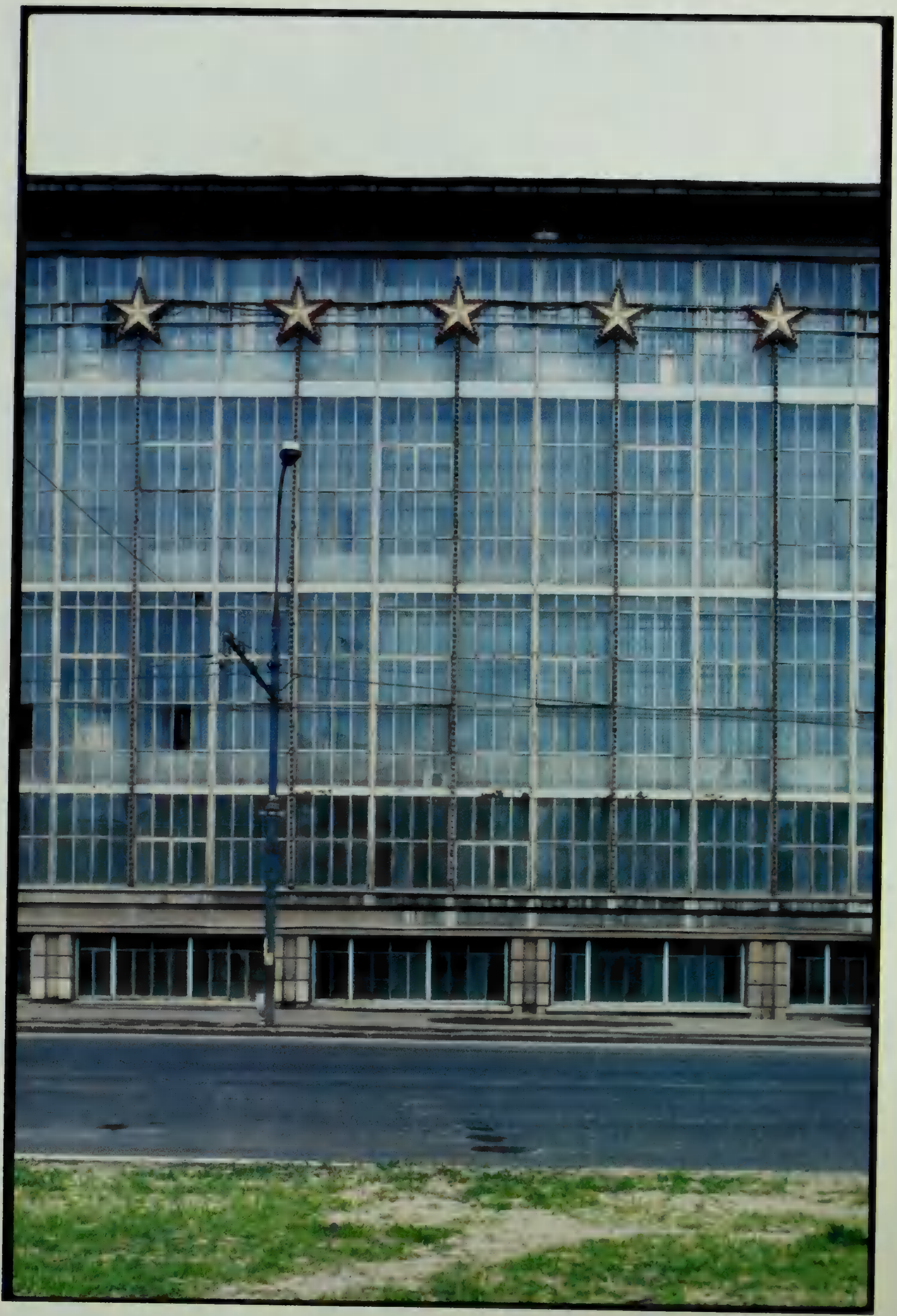


Below: **Cultural Center of the Proletariat district, now the Zil Club by A., L., and V. Vesnin, Moscow, 1931–37.**



The spiral stairwa leads to the observ tory on the roof of the main block of the Cultural Cente of the Proletariat district. Cast in on concrete pour, it h great sculptural presence and seem to float above the floor slab. It is one of the last building in Russia constructed in an uncompromisingly Modernist aesthet

The Zil automobile factory is one of the largest production facilities ever built in Moscow. It remained a showplace throughout the Communist era and was therefore kept in good condition.



Above: Zil automobile factory at 23 Avtozavodskaia Street by Popov, Muravev, and Zlatolinskii, Moscow, 1928–33.

QuitStonewallin

Precast

- Appx. installed cost $32/sq. ft.*
- Appx. lead time 6-12 months

Dimension Series Panels

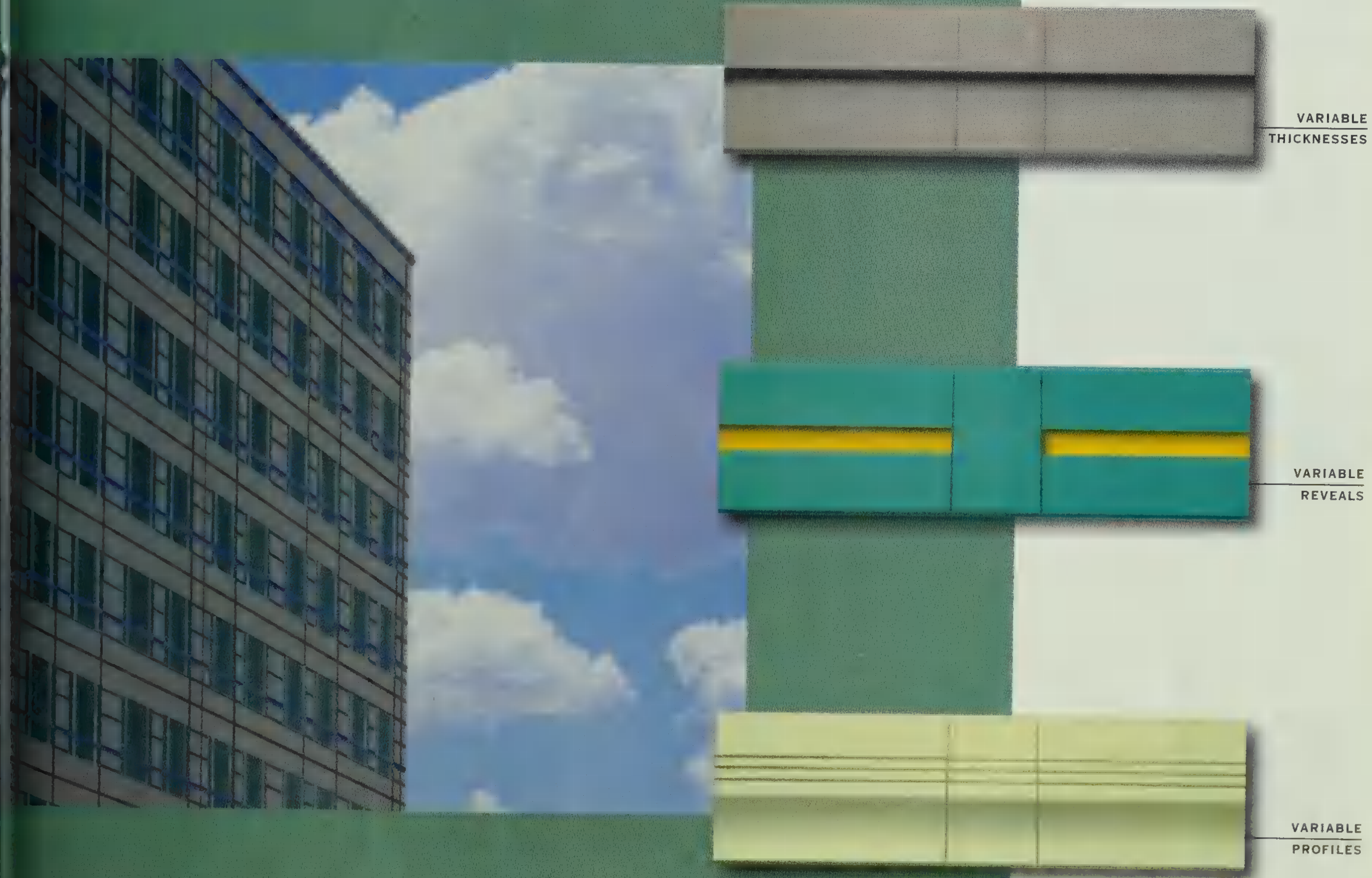
- Appx. installed cost $25/sq. ft.*
- Appx. lead time 6-12 weeks

DIM SION S

A Product For The New Millennium

As selected by Architectural Reco

*Based on average material and labor costs for complete curtainwall including supports.



NTRIA's New Formawall® Dimension Series®

Architectural Metal Panels

A's new Dimension Series panels are more attractive, colorful, and versatile — and you can get them
w without waiting! Dimension Series panels give you everything precast doesn't. Like lower installed cost.
nl palette of over 100 colors. Integral insulation. Lightweight, weathertight construction. And a wide range
nesses, profiles and reveals that give you virtually limitless design freedom. So quit compromising. Contact
A today for your personal presentation and add new Dimension to your design.

You've settled for precast long enough.

CENTRIA

CENTRIA Architectural Systems

1.800.752.0549
www.centria.com
CIRCLE 41 ON INQUIRY CARD

Polshek & Partners:
A firm and its universe

PHOTOGRAPHY: © ANDRE SOUROUJON

Describing his firm, James Stewart Polshek, FAIA, *repeatedly emphasizes the second word in its name—partnership. Like the dean he used to be, he carefully points to the talented faculty members who are his six partners: Joseph Fleischer,* FAIA, *Timothy Hartung,* FAIA, *Duncan Hazard,* AIA, *Richard Olcott,* FAIA, *Susan Rodriguez,* AIA, *Todd Schliemann,* AIA. *Indeed, Polshek has employed an academic model rather than a corporate one in shaping his practice. The primary motive is not profit, but to maximize internal debate and dialogue with clients. And after 37 years in practice, Polshek is looking to ensure a smooth transition to the next generation, one that will continue after he exits the stage. Before that happens, though, the firm is working on some important commissions, including the Clinton Presidential Library in Little Rock; the Oklahoma City Civic Center Music Hall, Oklahoma City; and Scandinavia House, New York City.*

The following interview was conducted in June by editor-in-chief Robert Ivy with all seven partners. Selected comments by Polshek are published here, and the entire interview with remarks from all of the partners can be found online at: www.architecturalrecord.com

ARCHITECTURAL RECORD: *What is your view of the architect's role and how does your practice relate to that vision?*

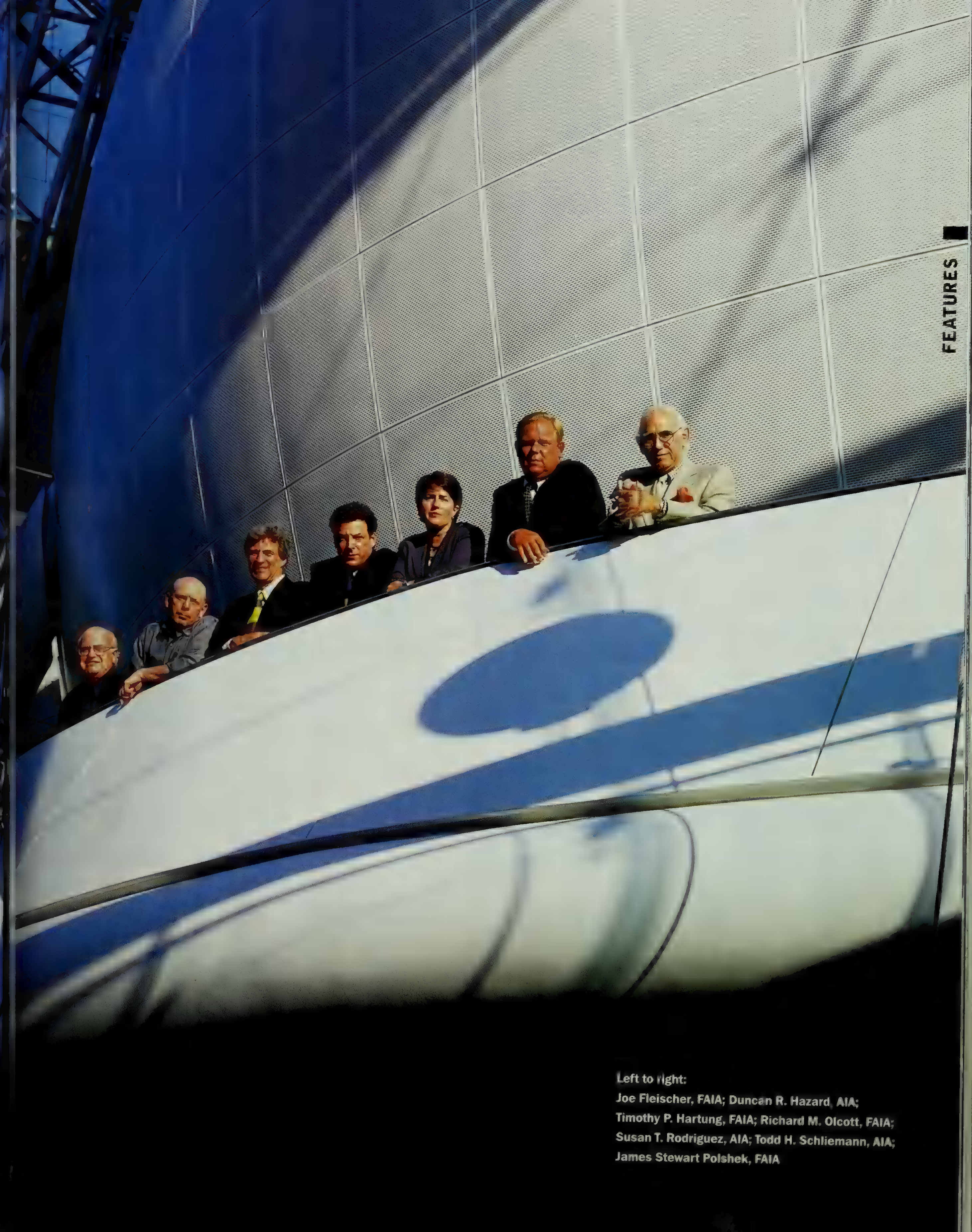
JAMES STEWART POLSHEK: It's a topic that consumes many of my waking hours. There has been a tendency to view the architect as a kind of *bella figura*—an art figure, a controller of things, even though that has patently not been the case.

And I have, for reasons too complex or psychologically devious to go into, always felt that the central weakness of this profession is, in fact, that insistence. I've gone through these "master builder" phases early on in [my career in] Japan, where I had a singular authority to make all decisions. What goes along with that is a kind of swaggering macho ego. I've never been very comfortable doing that or being in the limelight—up to and including the recent barrage of publicity over the Rose Center at the Museum of Natural History.

AR: *Tell us about the projects you pursue, your role in design, and how that has evolved.*

JSP: I have long been committed to the proposition that continuity in a practice is valuable. It requires a collaborationist ethic, which is what this practice has been building up to for a long time. We have been aggressively noncorporate, which has led us to seek highly visible, ethical commissions, i.e., nonprofit clients in health, education, culture, and government.

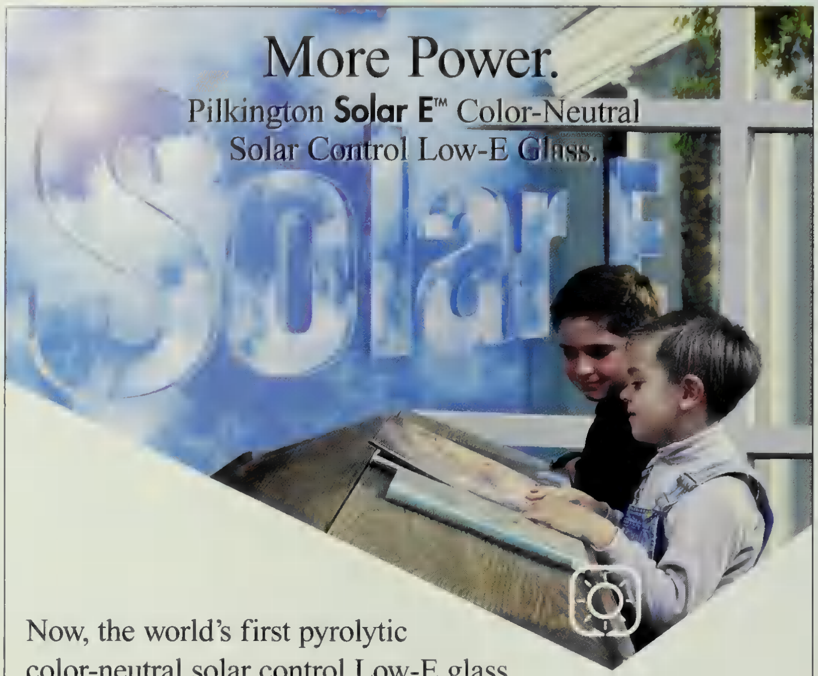
[I wish to create] an office culture that will endure, based on understanding the principles of design and how to exercise them. If you can't do that, then you're not going to enter the pearly gates at this office. Many have come here who are overly ambitious or excessively



Left to right:
Joe Fleischer, FAIA; Duncan R. Hazard, AIA; Timothy P. Hartung, FAIA; Richard M. Olcott, FAIA; Susan T. Rodriguez, AIA; Todd H. Schliemann, AIA; James Stewart Polshek, FAIA

More Power.

Pilkington **Solar E**™ Color-Neutral Solar Control Low-E Glass.



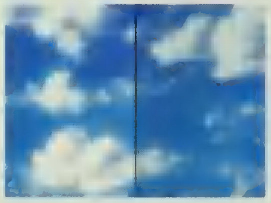
Now, the world's first pyrolytic color-neutral solar control Low-E glass gives you even more ways to manage the sun.

Until now, if you wanted to combine both solar control and Low-E thermal performance in a single glass, you had to use a sputtered coating (soft-coat) glass.

And that could mean long and unpredictable lead times. Special handling. And potential problems with color variations, especially after tempering or annealing.

But now, there's a new choice: Pilkington **Solar E**™ Color-Neutral Solar Control Low-E Glass. Because, like Pilkington **Energy Advantage**™ Low-E Glass, **Solar E** Glass is made by Pilkington's advanced pyrolytic technology. The solar control and Low-E properties aren't just a coating, but an integral part of the surface of the glass.

That means that Pilkington **Solar E** Glass offers consistent, color-neutral aesthetics – even after tempering. And **Solar E** Glass is easily handled.



This actual photograph through Pilkington Solar E Glass *(right)* and without any glass *(left)* demonstrates its color-neutral aesthetics.

Best of all, because the surface of Pilkington **Solar E** Glass has an unlimited shelf life, it's warehoused for ready availability. Where you need it, when you need it.

So now, you have even more power to manage the sun.

Contact Pilkington LOF for details, or see for yourself now at the Pilkington **Sun Management**™ website at **www.pilkington.com/sunmanagement**.

Pilkington LOF Building Products
811 Madison Ave., P.O. Box 799
Toledo, OH 43697-0799
Telephone: 419 247 4926; Fax: 419 247 4517
www.pilkington.com
www.pilkington.com/sunmanagement

PILKINGTON

© 2000 Pilkington LOF
Solar E™ Glass, **Energy Advantage**™ Glass and **Sun Management**™ System are trademarks of Pilkington
Note: Due to printing limitations, photos may vary from glass color. Please see glass samples from Pilkington LOF

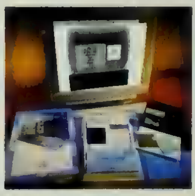
the Power to Manage the Sun™

…at your fingertips!

It's all waiting for you at **www.pilkington.com/sunmanagement**.

- The exclusive Pilkington **Sun Management**™ Interactive Calculator that lets you compare performance values for various glass combinations, and even…
- Generate **custom glass specifications**, in CSI format, ready to print, save as a file, or cut and paste right into your own project spec!
- A photo gallery of noteworthy projects
- Our complete Sweets™ catalog in electronic form
- A comprehensive library of Architectural Technical Bulletins
- Frequently Asked Questions about glass and glazing…and much more.

And it's all at your fingertips, at the Pilkington **Sun Management**™ website.



Your number one source for glass information.

PILKINGTON

Pilkington LOF Building Products
P.O. Box 799
Toledo, OH 43697-0799
Telephone 419 247 4926; Fax 419 247 4517
www.pilkington.com
www.pilkington.com/sunmanagement

CIRCLE 42 ON INQUIRY CARD

© 2000 Pilkington
Sun Management™ System is a trademark of Pilkington

focused on their own imprint—they don't last very long; the culture tends to eject them.

A long time ago I was that culture, but now that is no longer the case; it's broadened. It can be tense when the principal, who's been practicing under his own name for 40 years, becomes slightly obsessed with the fear of being marginalized. In most cases, when the principal goes the whole place goes—I would hate to see that happen here.

AR: *How actively are you engaged in the process?*
JSP: I am very attached to quite a few projects in the office, not closely to some, and hardly at all to at least half a dozen. I mean I watch them, I kibitz, I critique even, but we critique together in a group. Increasingly, I work at influencing the maintenance of this culture so that is does not become excessively profit-oriented or allow egos to get out of control.

At the same time, we wish to keep the place feisty and vital. And I think probably we have succeeded in doing just that. A question frequently asked of me is "how can you do all that wonderful work?" The answer is, "Easy, I don't," which I don't mind admitting. The question of who's a better designer is moot.

A QUESTION FREQUENTLY ASKED IS "HOW CAN YOU DO ALL THAT WONDERFUL WORK?" THE ANSWER IS, "EASY, I DON'T."

AR: *How does your firm excel?*
JSP: Our practice today has to do with the redefinition of our architecture. That sounds very grand, I know, and I don't want to be immodest making the claim. It's not a huge leap, but it does require a different attitude and, in a sense, denies the business basis for the profession. Replication doesn't work, and replication leads to huge efficiencies, profits, and expendability. I don't mean replication of building type so much as a methodology.

[For example,] if you do all commercial office buildings, you can really turn them out. It is the adoption of the artist's mantle, the wearng of the cloak of the magician, which once accepted by the critical observer, acts to give that architect license [to create] a system of mass production—a methodology of mass production. That is, you tweak a product a little bit each time, but it's still an automobile, with head and ail lights. It may have fins one year but not the next—it's basically the same product. That is mass production.

AR: *How do you handle this natural, businesslike tendency?*
SP: I act within this office to see that that doesn't happen, which is really lying in the face of the logic and benefits of predictability. But it also cretes a climate unhampered by that methodology.

AR: *How do you find and foster the kind of employee so necessary to this understanding and trust that you describe?*
SP: There's a huge amount of personal trust, which is really fundamenal to this kind of organization because we're doing so many stressful hings—not just around design, but management, personnel, and so orth. [Trust] removes much of the fear of the future, [which creates an] openness about security and the direction of the place; [employees relax nd that] has kept them here.

R: *Tell us about your relationship with higher education.*
SP: It's been an indirect influence. I was dean for 15 years at Columbia

Santa Fe Opera Theatre, Santa Fe, N. Mex. (top and center); Iris and B. Gerald Cantor Center for Visual Arts, Stanford University, Palo Alto, Calif. (bottom)

Art and air distribution become one. Integrate imaginative design concepts into functional architectural solutions. Style. Performance. Aesthetics. Brought together utilizing the elegant lines and graceful

formations
exclusively at METALAIRE

Architects' First Source
CMDGROUP

E-MAIL: formations@metalaire.com **WEB:** www.metalaire.com **PHONE:** 727 441 2651

CIRCLE 43 ON INQUIRY CARD

and taught before [that] at Cooper [Union] and Yale. I've always had a huge respect for teaching and the necessity for a professional office to nurture the next generation, the next, and the next. We create an atmosphere that is closer to academic than professional; a lot of the vigor of this place comes from that. I've always encouraged people in the office to teach, and a lot do.

AR: *The norm today seems to be more business-centric. You've articulated something about ethical principles that is not often stated.*

JSP: I see architecture as first a public service and then, if along the way it can occasionally rise to an art form, it's a social art form. Now all of a sudden the Rose Center has gotten tons of publicity. You know, [people] just lose all perspective, they don't realize there were 40 people in the office [who contributed to] this complex thing.

IF YOU THINK YOU KNOW WHAT YOU'RE GOING TO GET WITH US, YOU'RE NOT GOING TO GET IT. IF YOU WANT AN ART PIECE, WE'RE NOT THE RIGHT [FIRM].

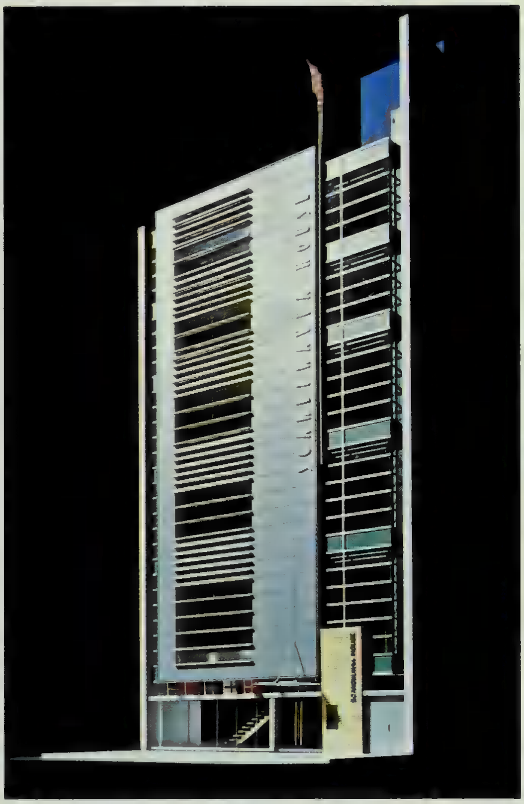
When somebody builds a Saturn rocket, which involves probably thousands of technicians, there's never a single maker; in architecture there's always a single maker. I think that's ego gratifying but ultimately very destructive to the work. With the extraordinary success of the economic system, it increasingly rewards those who attain individual celebrity.

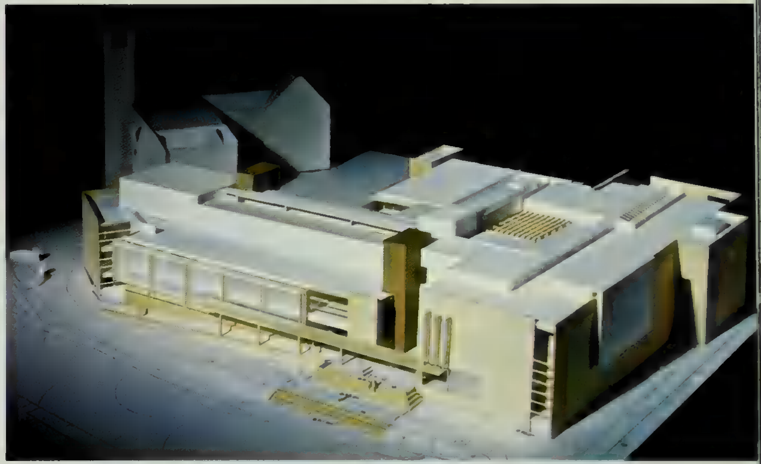
AR: *Tell me about the character of your office. Who is the right client for you?*

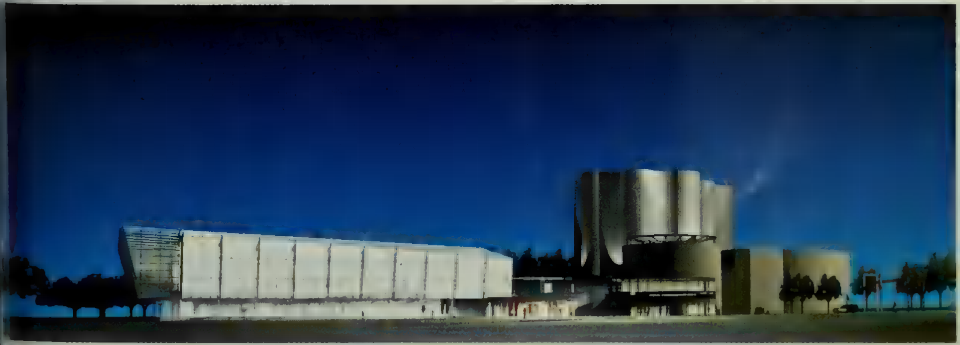
JSP: I think we are selected because the chemistry is right. There are clients who want a big name with a predictable result—they don't want us. The reputation of this office, for better or worse, is not always being the easiest to work with, because we will put a different idea on the table. There are clients who don't want that at all, especially developers.

My emphases are more social, more political, occasionally excessively more holier-than-thou. I can massage and push and critique and design, and I do it in a kind of informal way. Sometimes we do it all together, as we talk about what we're going to accept.

So the Clinton Presidential Library [in Little Rock] is a very radical departure from any presidential library that's ever existed in anybody's remotest memory. I have been working with Richard Olcott on the library, where in a sense we're copilots. On other projects, I'd characterize myself as being in the tower, you know, not even in the airplane. Somebody else is flying.

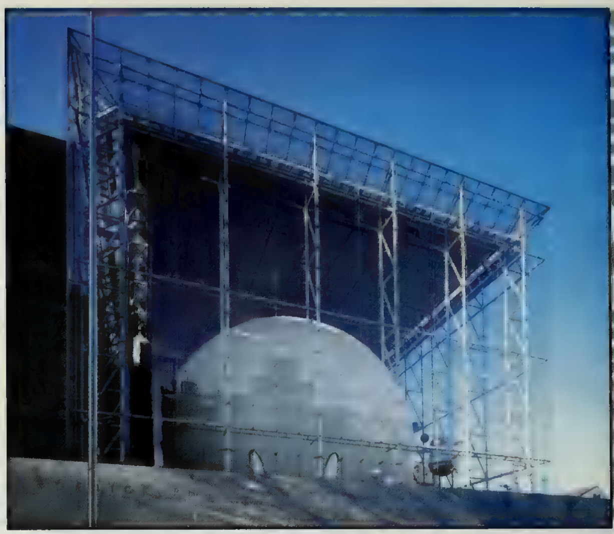

1


2


3

1. Scandinavia House, New York City; 2. Smith College Fine Arts Complex, Northampton, Mass.; 3. New York Hall of Science Expansion, Queens

The Infinite Possibilities of Pilkington **Planar**™ Structural Glass Systems



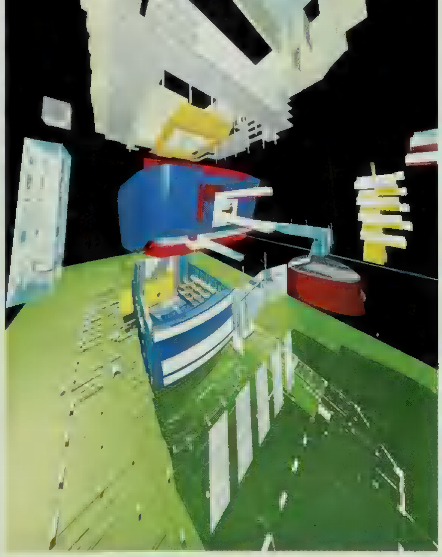
W&W GLASS SYSTEMS, INC.
Pilkington **Planar**
Structural Glass Systems
www.wwglass.com
Visit us on the web or call: 1-800-452-7925
CIRCLE 44 ON INQUIRY CARD

AR: *How do you acquire work and what about growth of the firm?*
JSP: A lot of it's over the transom and from reputation; at this juncture, I'd say very little [from marketing]. I think in 40 years I've had a potential client to dinner at my house once—25 years ago. I don't play golf [nor do] the other partners. Our social or family lives are not mixed up with our professional lives at all.

AR: *How big do you want to be?*
JSP: [We are] trying to come to grips with growth. [Controlling] a 130- or 140-person firm isn't the same as a 70-person firm.

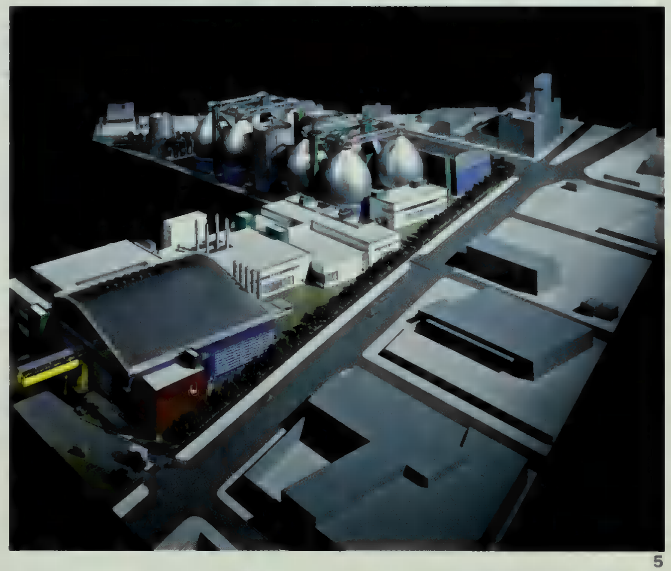
You asked about why people come to this firm to begin with and why they stay. Making money has never been very important, and not ecause we're independently wealthy. Oh, they're all concerned, they have amilies, and we all have to live, but it's not a driving issue.

MAKING MONEY HAS NEVER BEEN VERY IMPORTANT, AND NOT BECAUSE WE'RE INDEPENDENTLY WEALTHY.



4

We're doing very well, and if we chose o have a more normative management strucure, then we would grow to 200 people very uickly. The partners and I don't want that; in act, quite the contrary.



5

4. Oklahoma City Civic Center Music Hall, Oklahoma City; 5. Newtown Creek Wastewater Treatment Plant, Polshek Partnership Architects/ Greeley and Hansen, Hazen and Sawyer P.C., Malcolm Pirnie, a joint venture; 6. Zankel Hall, Carnegie Hall, New York City

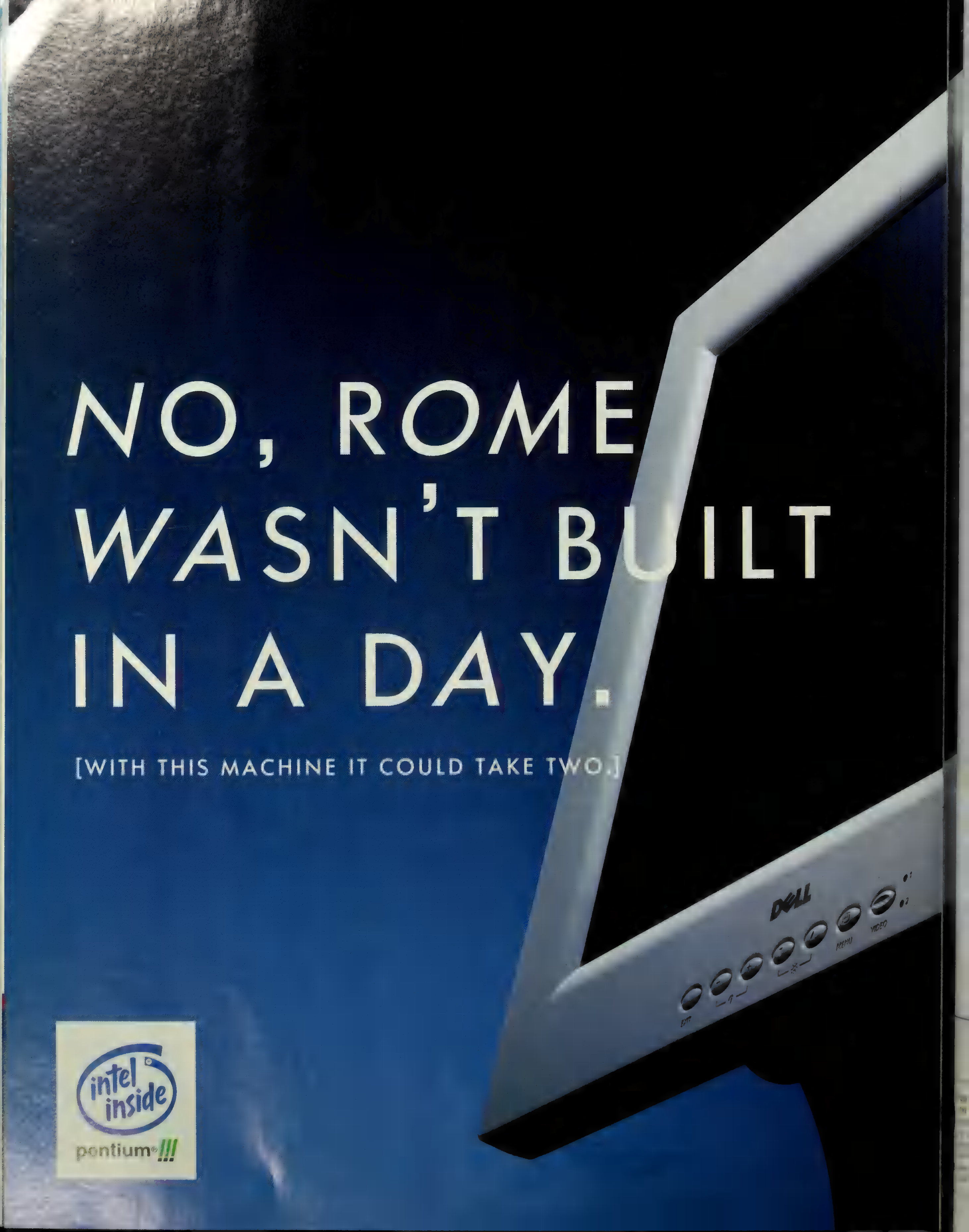
R: *Where does the shakedown occur between you nd the right client—let's say the client that wants he signature architect with the identifiable style?*
SP: I make it very clear, if you think you know hat you're going to get with us, you're not going get it. If you want an art piece, we're not the ight [firm].

The Houston Museum of Fine Arts is a ind of museum that tends to look for architects ho are the "flavor of the month." I know it unds pejorative, and it is to a certain extent. hey're looking for an architect who is well nown and will attract money from donors. But e university art museum looks for an architect ho will have the patience to deal with a diverse faculty, administration d alumni. So from money to ideas. And that's very, very different.

6

R: *In your own personal professional development, what firms or indiduals had a strong influence on you?*
P: Well, of course, Lou Kahn was my teacher, and I think his work, his titudes, his radicalism, not his artistry, have had a very long and proound influence. I've said it so much, you force me to say it again: the two ajor historical influences [on me] have been the Cistercian architecture the late Middle Ages, which is without named architects; and the pre-eiji great garden designers of Japan, also with anonymous authorship. nzo Piano's workshop is maybe, among all of us here, a working conmporary office closest to an ideal model. I can think of no ntemporary American practitioners, other than very young ones that I k at carefully. But I think it is an interesting question. ■

WW *For the complete transcript of this interview, including conversation h the firm's six other partners, go to* **www.architecturalrecord.com**. *Also on site: Rose Center construction information and drawings, as well as related toric material from* ARCHITECTURAL RECORD*'s archives.*


NO, ROME WASN'T BUILT IN A DAY.
[WITH THIS MACHINE IT COULD TAKE TWO.]
DELL
EXIT
MENU
VIDEO
intel inside
pentium®!!!

Flat Panel Monitor Sold as an Upgrade.

Empires come and go. And, what once was possible in months, is now required in days, or even hours. Not to worry. Because here's a workstation that can leap killer deadlines faster than you can say "Centurion." The Dell™ Precision™ workstation's RDRAM technology and dual processor capability provides architects and engineers the bandwidth and refresh rate to perfect their designs quickly—even up to the last minute. And a full range of industry-leading graphics cards delivers impressive 2D and 3D performance that breathes digital life into your creations. Just think of what those early architectural visionaries might have accomplished if they had a workstation like this.

DELL™ WORKSTATIONS:

DELL™ PRECISION™ 220

- Intel® Pentium® III Processor at 667MHz (up to 933MHz)
- Dual Processor/RAID Capable
- 64MB RDRAM (up to 512MB)
- 10.2GB[5] 7200 RPM EIDE HD (146GB Internal SCSI Storage Capacity)
- 17" (16.0" vis) M781 Monitor
- 32MB 4X AGP NVIDIA TNT2 M64 Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- Microsoft® Windows® 2000 Professional
- 3-Yr NBD On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$1699 E·VALUE CODE 89047-490816

BUSINESS LEASE: $59/MO., 36 MOS.[11]

ASK ABOUT OUR AIA DISCOUNT.

DELL™ PRECISION™ 420

- Intel® Pentium® III Processor at 667MHz (up to 933MHz)
- Dual Processor/RAID Capable
- 128MB RDRAM (up to 1GB)
- 10.2GB[5] 7200 RPM EIDE HD (220GB Internal SCSI Storage Capacity)
- 17" (16.0" vis) M781 Monitor
- 32MB 4X AGP Matrox G400 Max Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- Microsoft® Windows® 2000 Professional
- 3-Yr NBD On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$2339 E·VALUE CODE 89047-490823

BUSINESS LEASE: $82/MO., 36 MOS.[11]

ASK ABOUT OUR AIA DISCOUNT.

DELL™ PRECISION™ 620

- Intel® Pentium® III Xeon™ Processor at 800MHz (up to 933MHz)
- Dual Processor/RAID Capable
- 128MB ECC RDRAM (up to 2GB)
- 9GB[5] 10K RPM Ultra3 SCSI HD (220GB Internal SCSI Storage Capacity)
- 17" (16.0" vis) M781 Monitor
- 32MB 4X AGP Matrox G400 Max Graphics Card
- Integrated NIC & Sound; 48X Max CD-ROM
- Microsoft® Windows® 2000 Professional
- 3-Yr NBD On-site Service[3]
- 7x24 Dedicated Workstation Phone Tech Support

$3649 E·VALUE CODE 89047-490836

BUSINESS LEASE: $128/MO., 36 MOS.[11]

ASK ABOUT OUR AIA DISCOUNT.

SYSTEM UPGRADES

Graphics Cards:
- 32MB 4X AGP NVIDIA TNT2 M64
- 32MB 4X AGP Synergy Force
- 64MB 4X AGP GLoria® II Pro (420 & 620 only)
- Intense3D Wildcat® 4110 Pro (420 & 620 only)
- NEW IEEE 1394 Adapter Card

Monitors:
- 17" (16.0" vis) P780 FD Trinitron® Monitor
- 19" (17.9" vis) P991 FD Trinitron® Monitor
- 21" (19.8" vis) P1110 FD Trinitron® Monitor
- 15" (15.0" vis) FP1501 Flat Panel Monitor

Operating Systems Options:
- Microsoft® Windows® 2000 Professional
- Red Hat® Linux™ (420 & 620 only)

DELL.COM

USE THE E-VALUE CODE TO GET EXACTLY WHAT YOU WANT | **800.545.9692** | WWW.DELL.COM

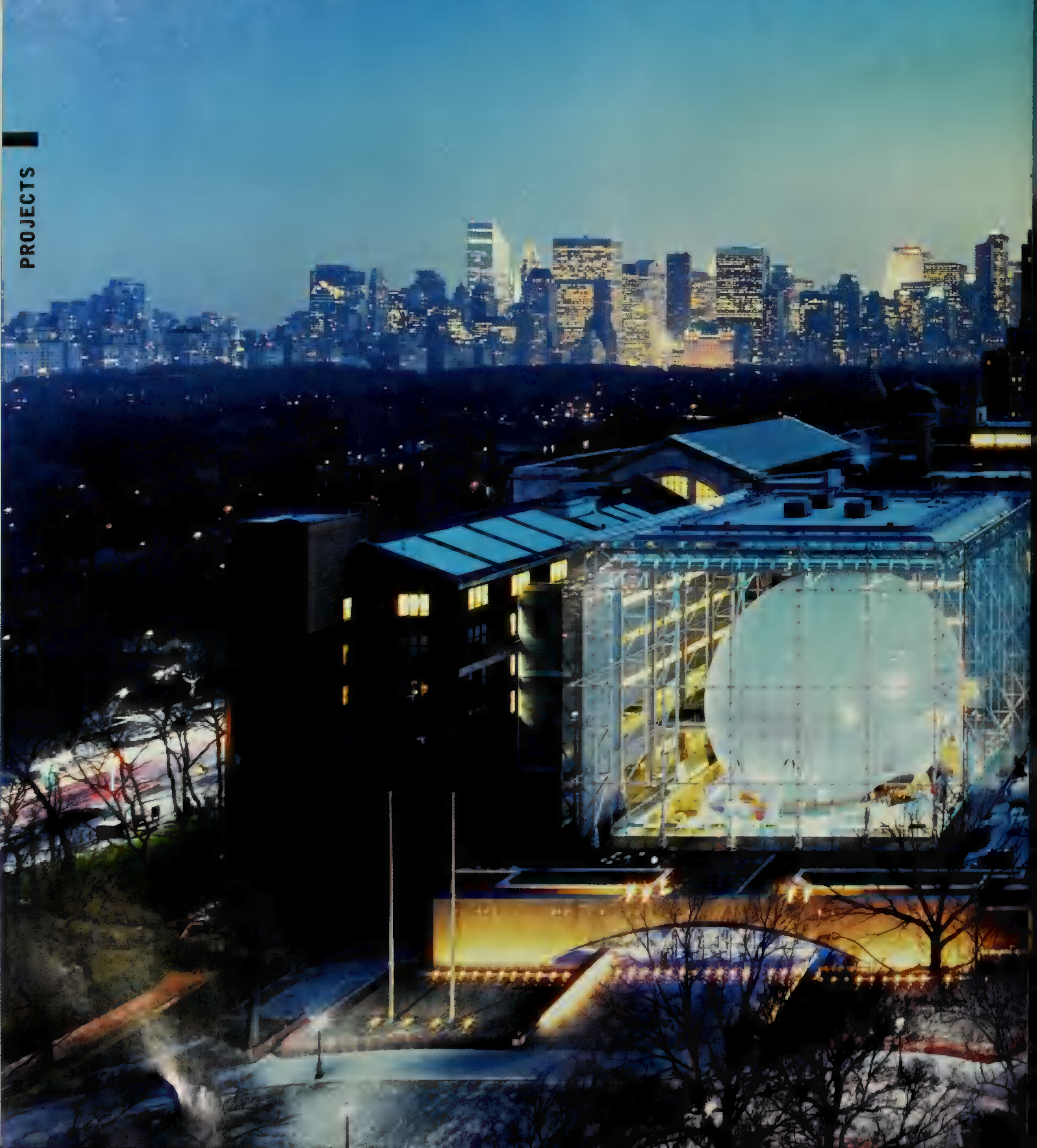
USE THE POWER OF THE E·VALUE CODE. Match our latest technology with our latest prices. Enter the E·VALUE code online or give it to your sales rep over the phone. www.dell.com/evalue

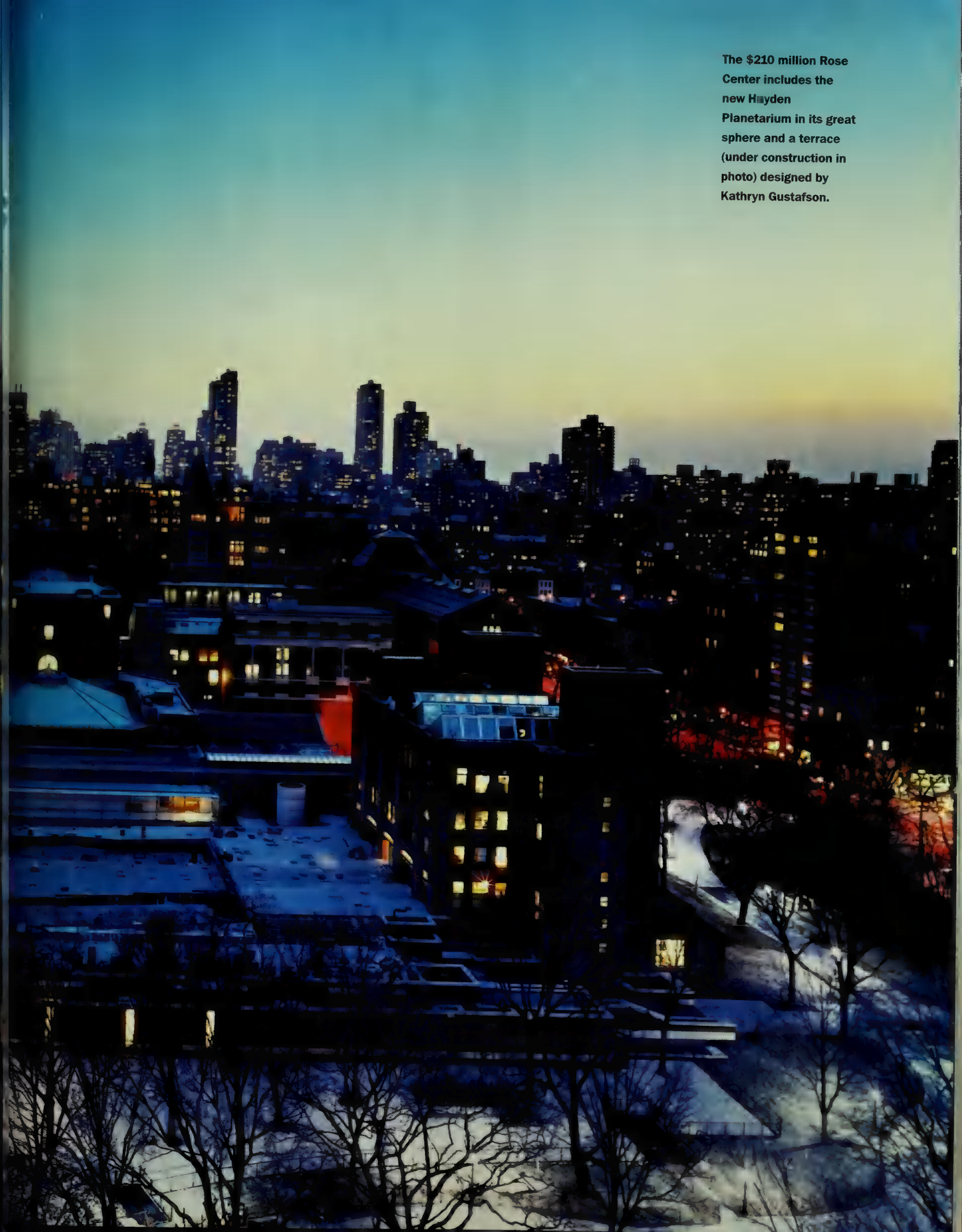
Dell recommends Windows 2000 Professional for business.

Call: M-F 7a-9p | Sat 10a-6p | Sun 12p-5p CT | Canada: 800-839-0148 | Mexico: 001-877-269-3379 | GSA Contract #GS-35F-4076D

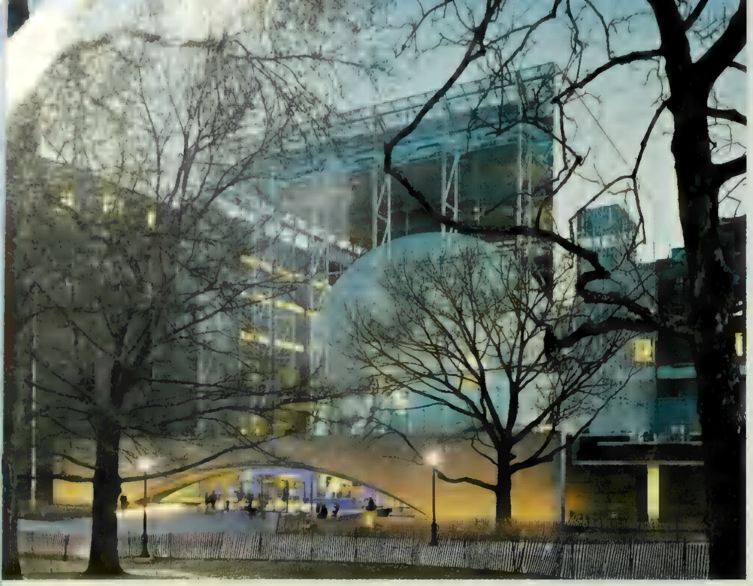
Prices, specifications, and availability may change without notice. Taxes and shipping charges extra, and vary. Cannot be combined with other offers or discounts. U.S. only. [1]For a copy of our Guarantees or Limited Warranties, write Dell USA L.P., Attn: Warranties, One Dell Way, Round Rock, Texas 78682. [3]Service may be provided by third party. Availability varies. Technician will be dispatched, if necessary, following phone-based troubleshooting. [5]For hard drives, GB means 1 billion bytes; accessible capacity varies with operating environment. [11]Business leasing arranged by Dell Financial Services L.P., an independent entity, to qualified customers. Lease payments based [illegible] 36-month 10% purchase option lease and do not include taxes, fees and shipping charges. Subject to credit approval and availability. Lease terms and pricing subject to change without notice. Intel, the Intel Inside logo, and Pentium [illegible] registered trademarks and Intel SpeedStep, Pentium III Xeon, and Celeron [illegible] trademarks of Intel Corporation. MS, Microsoft, BackOffice, IntelliMouse, Windows NT, and Windows [illegible] registered trademarks of Microsoft Corporation. 3Com is a registered trademark and Fast EtherLink is [illegible] trademark of 3Com Corporation. Trinitron is [illegible] registered trademark of Sony Corporation. ©2000 Dell Computer Corporation. All rights reserved.

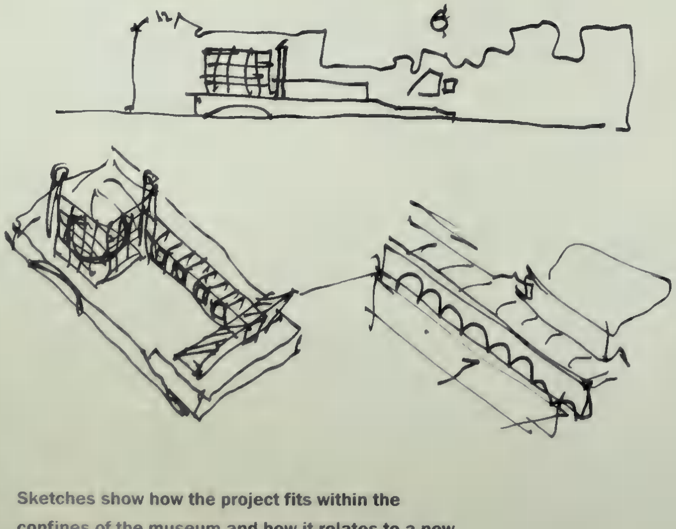
Polshek Partnership brings the stars to the masses in the new ROSE CENTER FOR EARTH AND SPACE





The $210 million Rose Center includes the new Hayden Planetarium in its great sphere and a terrace (under construction in photo) designed by Kathryn Gustafson.





Sketches show how the project fits within the confines of the museum and how it relates to a new terrace defined on one side by an enclosed porch.

By Clifford A. Pearson

Time and space are the essence of the universe. Capturing ther in glass and steel is as tricky as getting a quark to sit still for portrait. So in their design of the Frederick Phineas and Sandr Priest Rose Center for Earth and Space, the architects at th Polshek Partnership boiled architecture down to Platonic forms—a cub and a sphere—then froze it in the lightest and most transparent material The result is a building immediately recognizable as an icon, but one th seems ready to float away or, at times, almost disappear. By combining th grand with the ethereal, the Rose Center achieves a sense of timelessne that hints at the mysteries of the cosmos.

James Stewart Polshek, FAIA, likes to describe the work of h firm (see page 88) as an "architecture of interpretation." The phra implies a degree of engagement—between architect and client an between building and users—that invites multiple responses. Th approach seems just right for an institution devoted to making scien accessible to the lay public and to children in particular.

As built, the Rose Center is both new and familiar. The gia metal sphere—87 feet in diameter—calls to mind the dome of the sky, th old Hayden planetarium, the earth, and heavenly objects. The clear-gla cube that encases the great orb alludes to the infinite universe.

"The structure had to make a statement about the museum says Ellen Futter, president of the American Museum of Natural Histo (AMNH), the parent institution of the Rose Center. "What it does is d brick science and make it visible from the street. That transparency go to the heart of our mission," explains Futter. As important as the messa is the building's ability to attract attention. "It's visually captivating soon as you spot it," boasts Futter. "And when you go inside, it fulfills all your anticipation."

A brief history of the (Rose Center) universe

Shortly after Futter became president of AMNH in 1993, she realized th the much-loved but long-neglected Hayden Planetarium needed a maj renovation. The redbrick and copper-domed building, erected in 1936 an addition to an institution that hadn't stopped growing since openi in 1877, was in poor repair. It had decades-old exhibits and the whiff o loopy uncle's attic. Attendance had dropped by half between 1976 a 1993. Generations of New Yorkers had visited the planetarium on scho trips and remembered it fondly, but little more than nostalgia, it seeme kept them coming.

"When I saw the planetarium in 1993," says Polshek, "I sa 'What a dump!'" But he realized that the condition of the planetariu was only part of the problem; equally troublesome was its poor integ tion with the rest of the museum. So Futter asked Polshek to develop master plan for the first floor of the entire museum, making the plan-tarium part of a more cohesive flow of exhibit halls within t institution. What began as a renovation project grew in scope as Polsh and his partner Todd Schliemann, AIA, spent time interviewing all of t

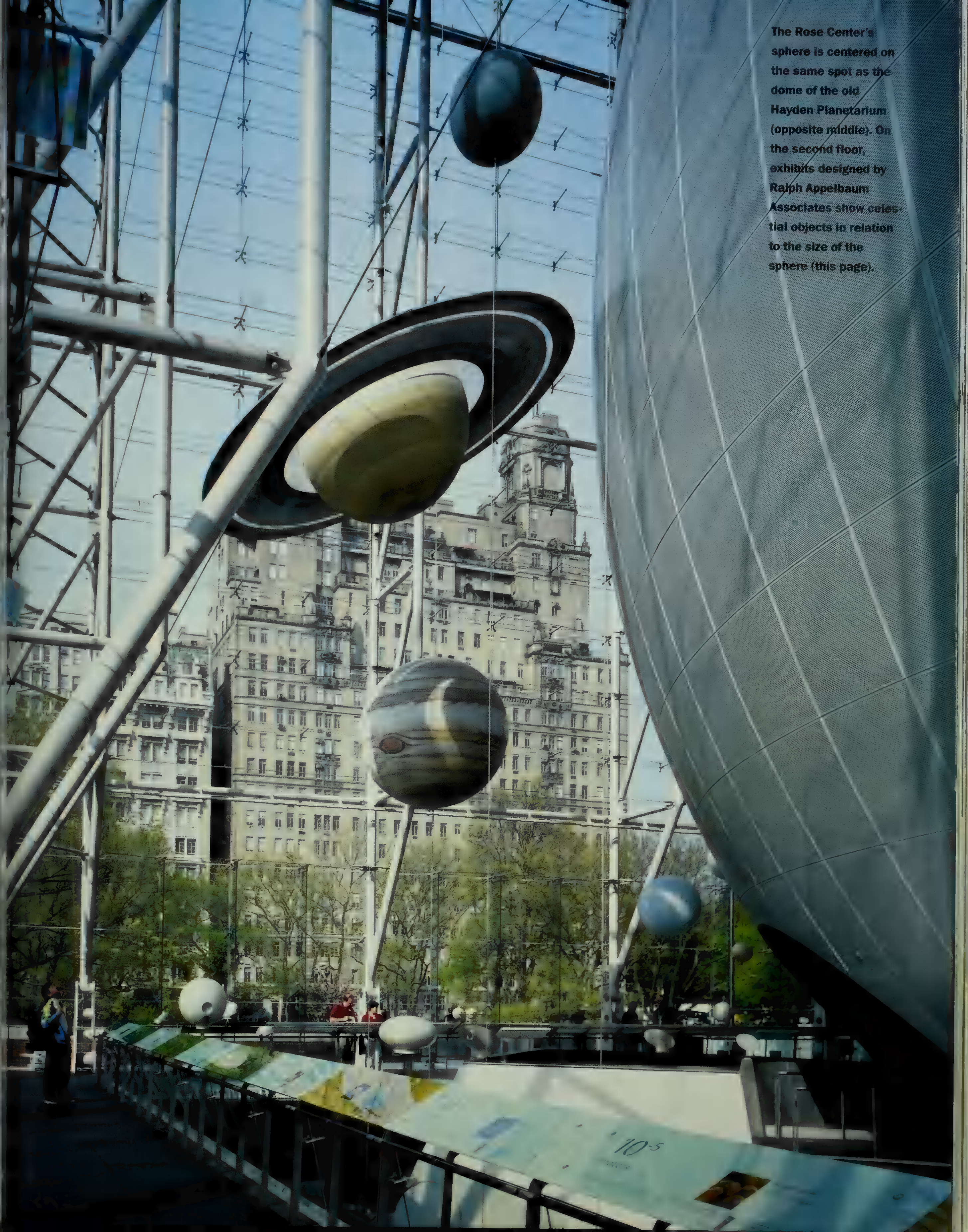
Project: *Frederick Phineas and Sandra Priest Rose Center for Earth and Space, New York City*

Architect: *Polshek Partnership—James Stewart Polshek, FAIA, Todd H. Schliemann, AIA, principals; Joseph Fleischer, FAIA, partner-in-charge; Tyler Donaldson, AIA, associate-in-charge; David Wallance, AIA, design associate; Kala Somvanshi, AIA, pro architect*

Engineers: *Weidlinger (structural Altieri Sebor Wieber (MEP)*

Consultants: *Ralph Appelbaum Associates (exhibits); Fisher Maran Stone (lighting); Shen Milson & W (acoustical)*

Construction Manager: *Morse Di*



The Rose Center's sphere is centered on the same spot as the dome of the old Hayden Planetarium (opposite middle). On the second floor, exhibits designed by Ralph Appelbaum Associates show celestial objects in relation to the size of the sphere (this page).

museum's department heads. When asked by the museum's board directors to think beyond the original limits of the project, Polshek ar Schliemann took the existing planetarium's hemispheric dome and dre it as a full sphere. Then they placed it within a great box, combining tw Platonic forms to create a powerful and immediately recognizable ico Futter and her board loved the scheme.

“At first, we thought we could save the old dome and just add new bottom half to it,” recalls Polshek, who was intrigued by the idea of part-new, part-old construction. But the 1936 structure, one of the olde surviving thin-shell reinforced-concrete domes in the U.S., was not great shape and saving it would have constrained plans for a state-of-th art planetarium. “The old facility couldn't portray our new knowledge the universe, nor could it accommodate the technology we now have communicate what we've learned,” explains Futter. Although Polshek ha taken his own children on visits to the Hayden Planetarium years befo and had fond memories of the building, he says he didn't hesitate to te it down. “We have an obligation to create the landmarks of the futur

The project drew considerable opposition—from preservatio ists and neighborhood groups. The architects accommodated the people in many small ways—preserving trees on the north side of t building, for example, and incorporating a new dog run off 81st Street- and in a few big ways—such as working within the footprint of the o planetarium and occupying no extra parkland. In its favor, the proje would include a new entrance on Columbus Avenue and a grand terra west of the glass cube, features that would help connect AMNH to neighborhood. The terrace would sit on top of a new parking structu which would have two of its three levels tucked below grade.

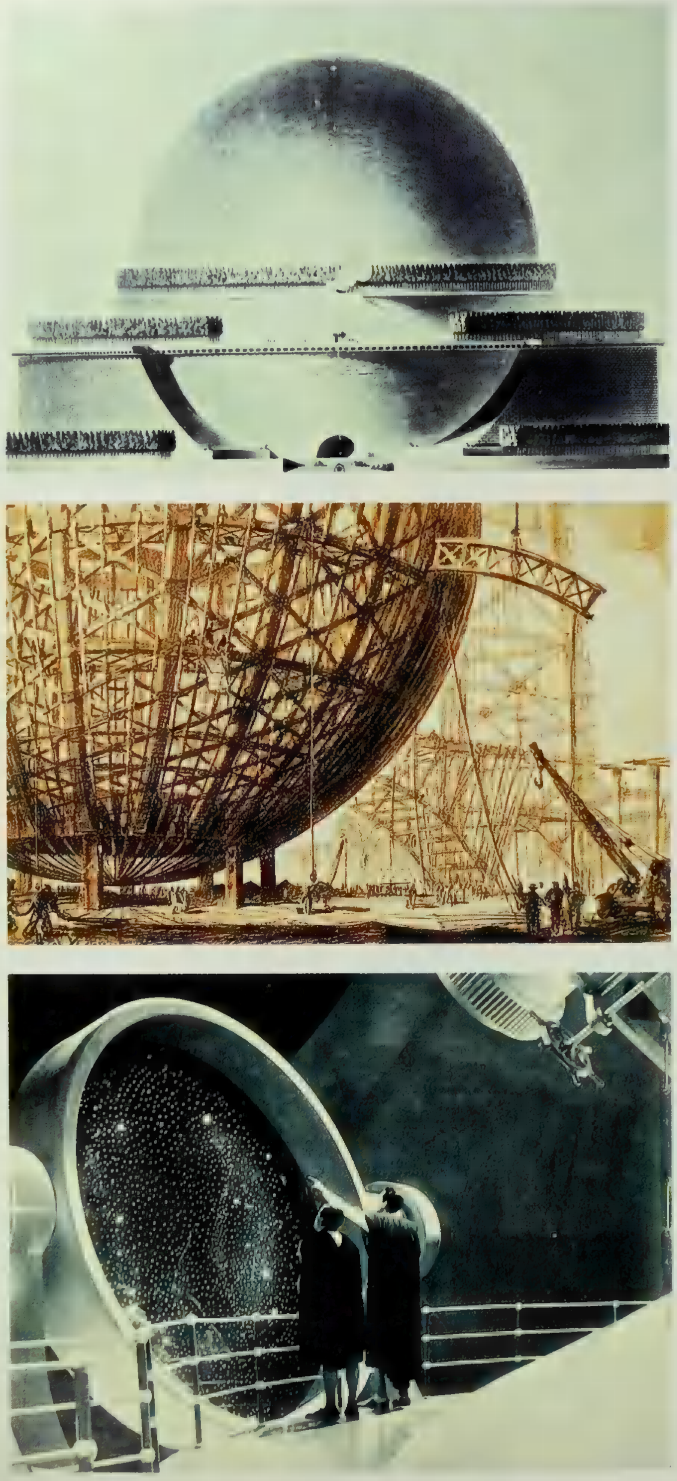
POLSHEK SAYS HE DIDN'T WANT “TO PRETEND THIS WAS AN EXTENSION OF A 19TH-CENTURY BUILDING.”

The portion of the parking structure above grade would be cl in red brick to blend with many of the surrounding buildings, and t Rose Center's granite base would feature an arched entrance recalling t museum's original entry on 77th Street, but the rest of the project wou be proudly modern in attitude and materials. The crisp lines of its gla cube, the exposed steel trusses, the otherworldly lighting of its interi would clearly set the Rose Center apart from the rest of the museu There would be no doubt where the old ended and the new began. “ didn't feel it was appropriate to pretend this was an extension of a 19t century building, especially in this age of Internet technology a forward-looking science,” states Polshek. The New York City Landma Preservation Commission agreed and approved the project unanimous

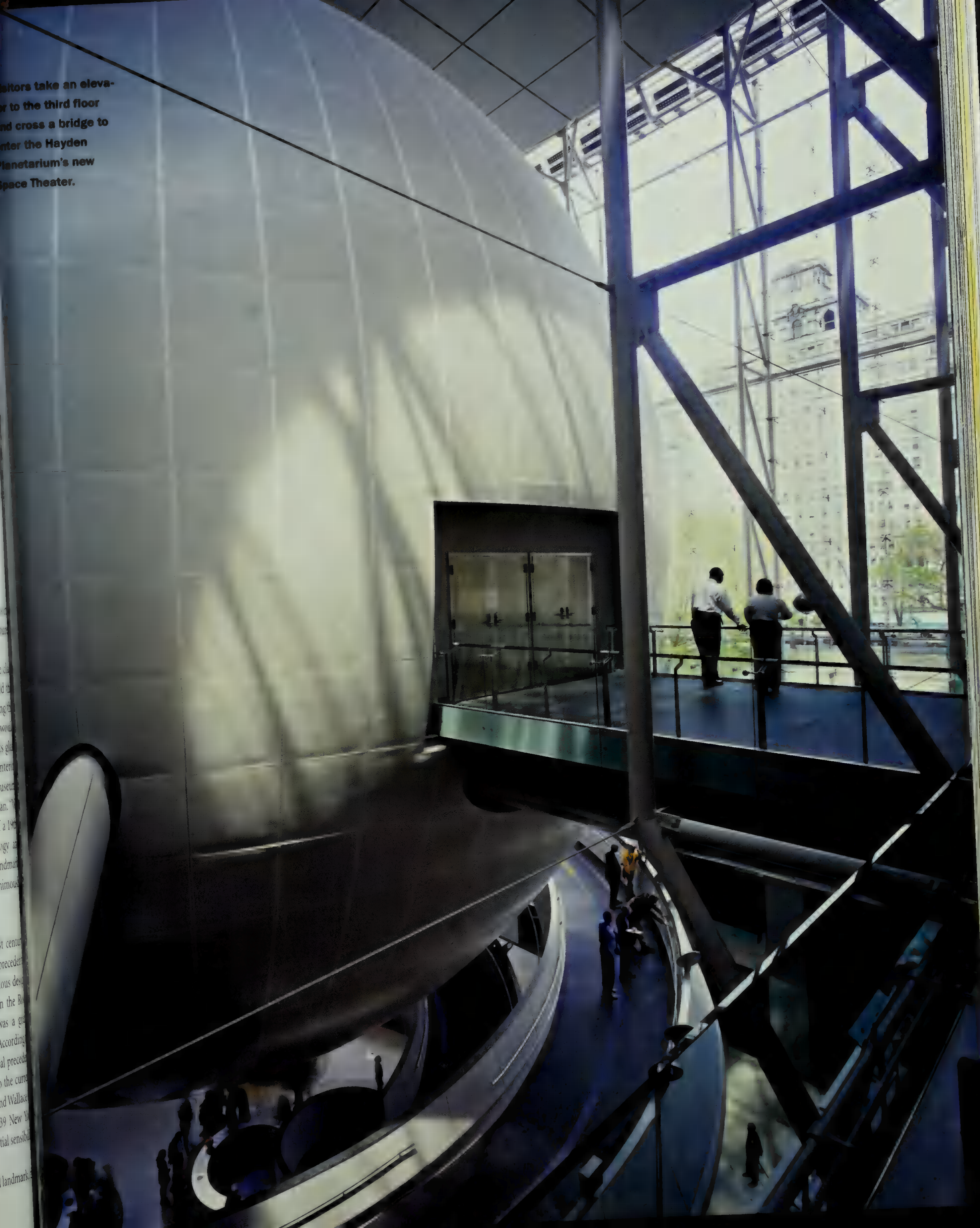
Where the ideas came from

While designing a planetarium and space center for the 21st centu Polshek and Schliemann weren't afraid of looking for historic preceden The most obvious ancestor was Étienne-Louis Boullée's famous desi for a cenotaph to Isaac Newton. Several times bigger than the Ro Center, Boullée's unbuilt memorial, designed in 1784, was a gr masonry sphere bubbling up from a tiered cylindrical base. According Polshek, the Newton cenotaph was “more of a metaphorical preced than a literal one” for the Rose Center. More important to the curr scheme were science-fiction images from films and books and Wallace Harrison's futuristic design of the Perisphere at the 1939 New Yo World's Fair, says Polshek. “These had the energy and spatial sensibil that we wanted to capture,” explains the architect.

As a monumental glass addition to a Neoclassical landmark, t

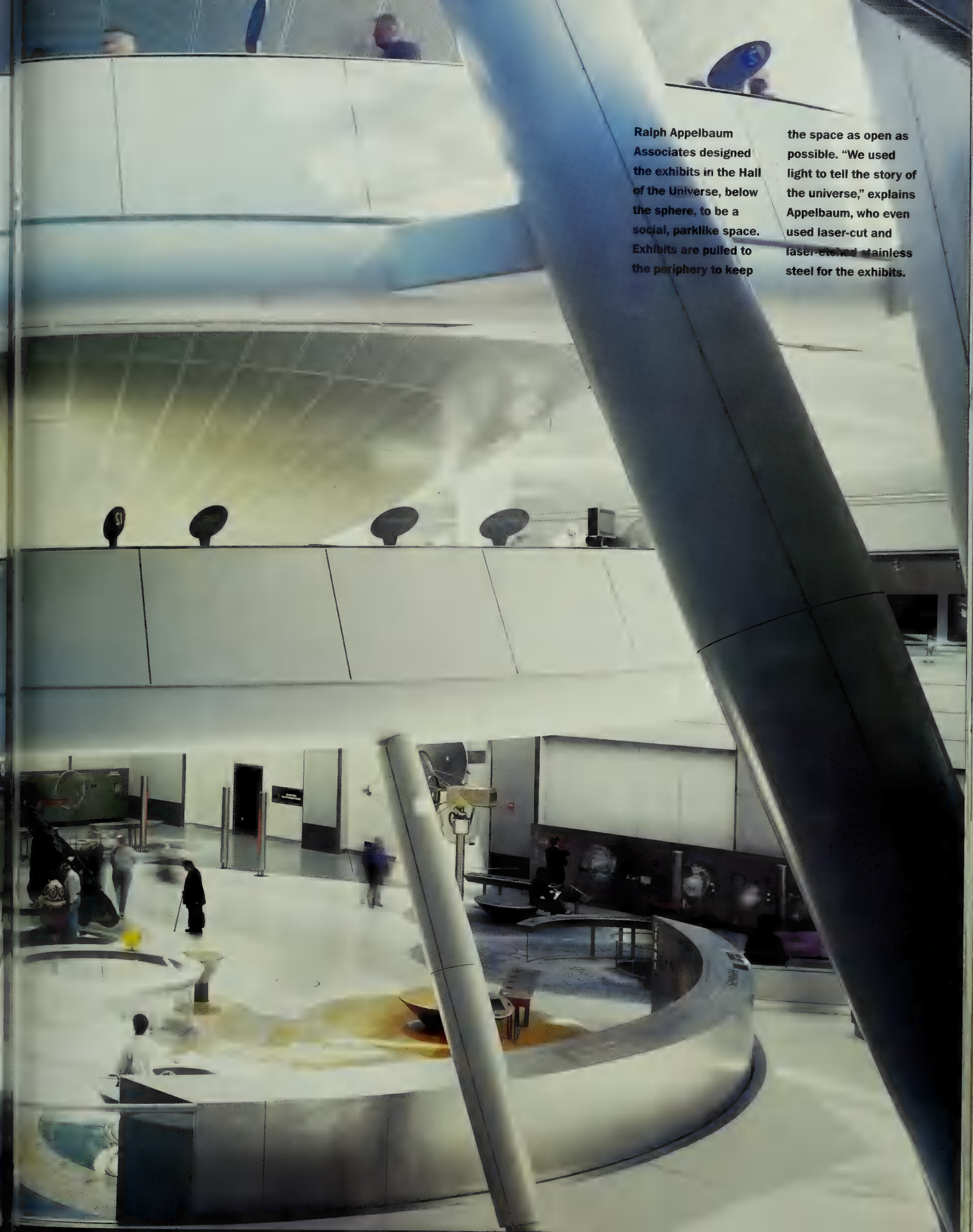


Visual precedents for the Rose Center include Boullée's unbuilt cenotaph for Isaac Newton dating from 1784 (top), Wallace Harrison's Perisphere from the 1939 New York World's Fair (shown in a Hugh Ferris rendering, middle), and science-fiction films such as H.G. Wells's *Things to Come* from 1936 (above).

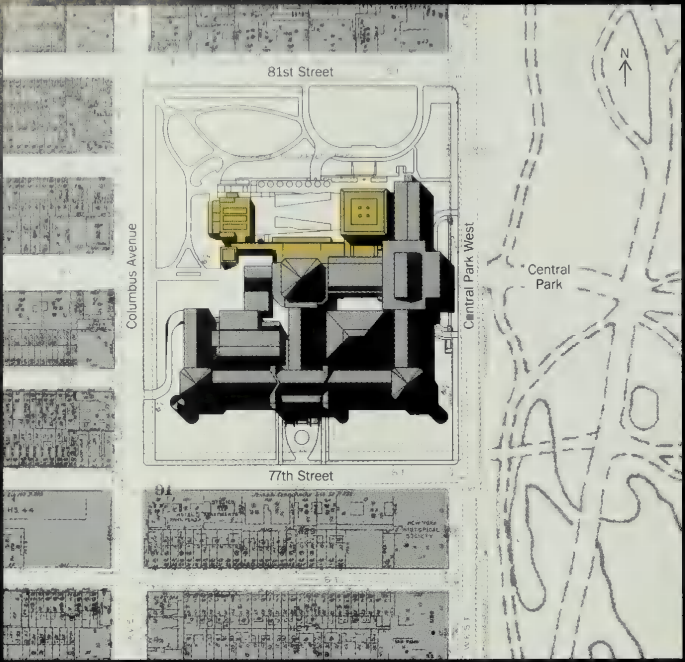


isitors take an eleva-
r to the third floor
nd cross a bridge to
nter the Hayden
Planetarium's new
Space Theater.

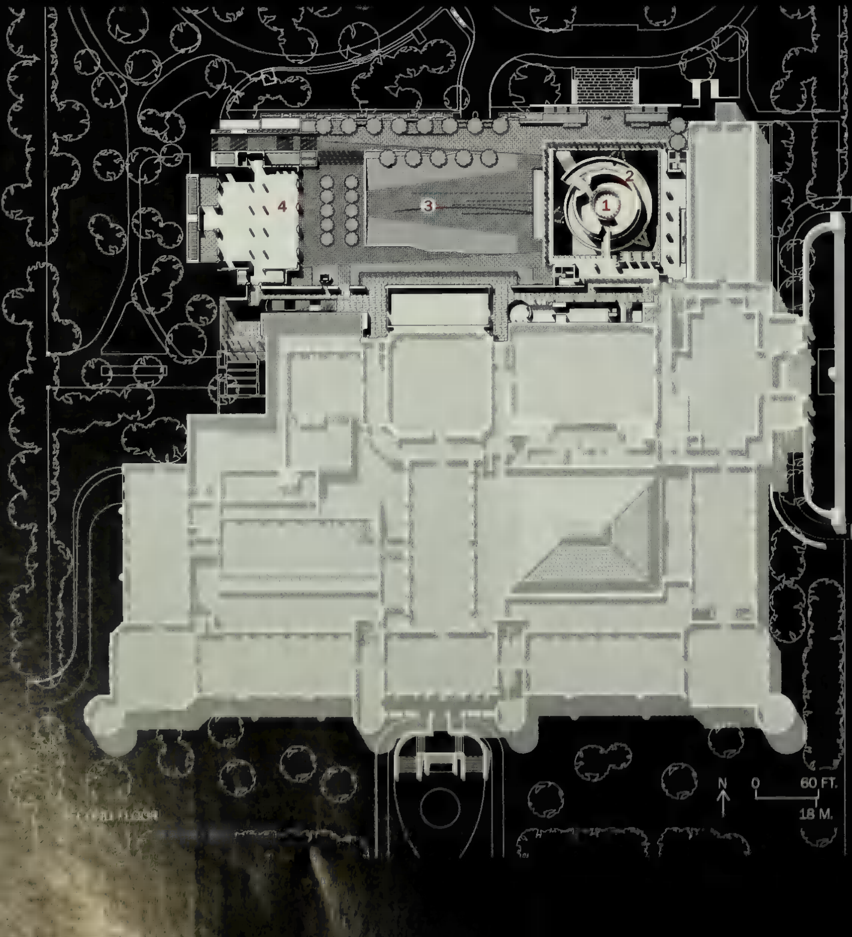
4
13

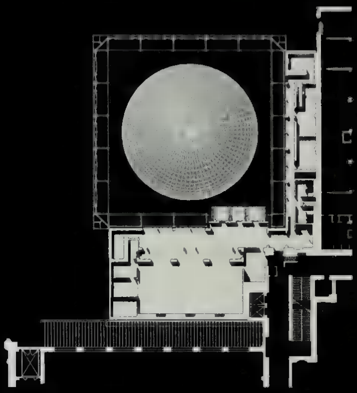


Ralph Appelbaum Associates designed the exhibits in the Hall of the Universe, below the sphere, to be a social, parklike space. Exhibits are pulled to the periphery to keep the space as open as possible. "We used light to tell the story of the universe," explains Appelbaum, who even used laser-cut and laser-etched stainless steel for the exhibits.

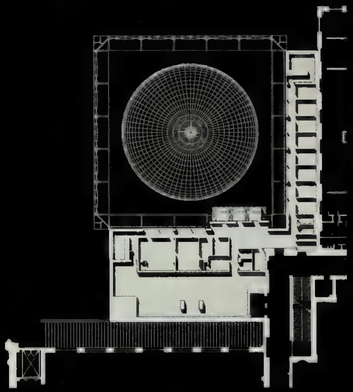


1. *Big Bang Theater*
2. *Cosmic Pathway*
3. *Terrace*
4. *Cafeteria*
5. *Space Theater*

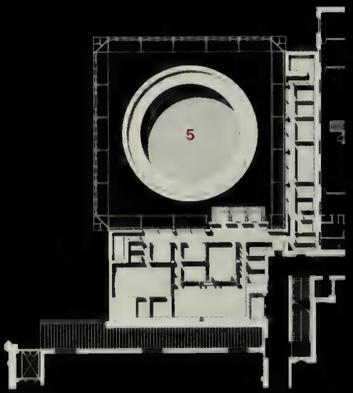




SIXTH FLOOR

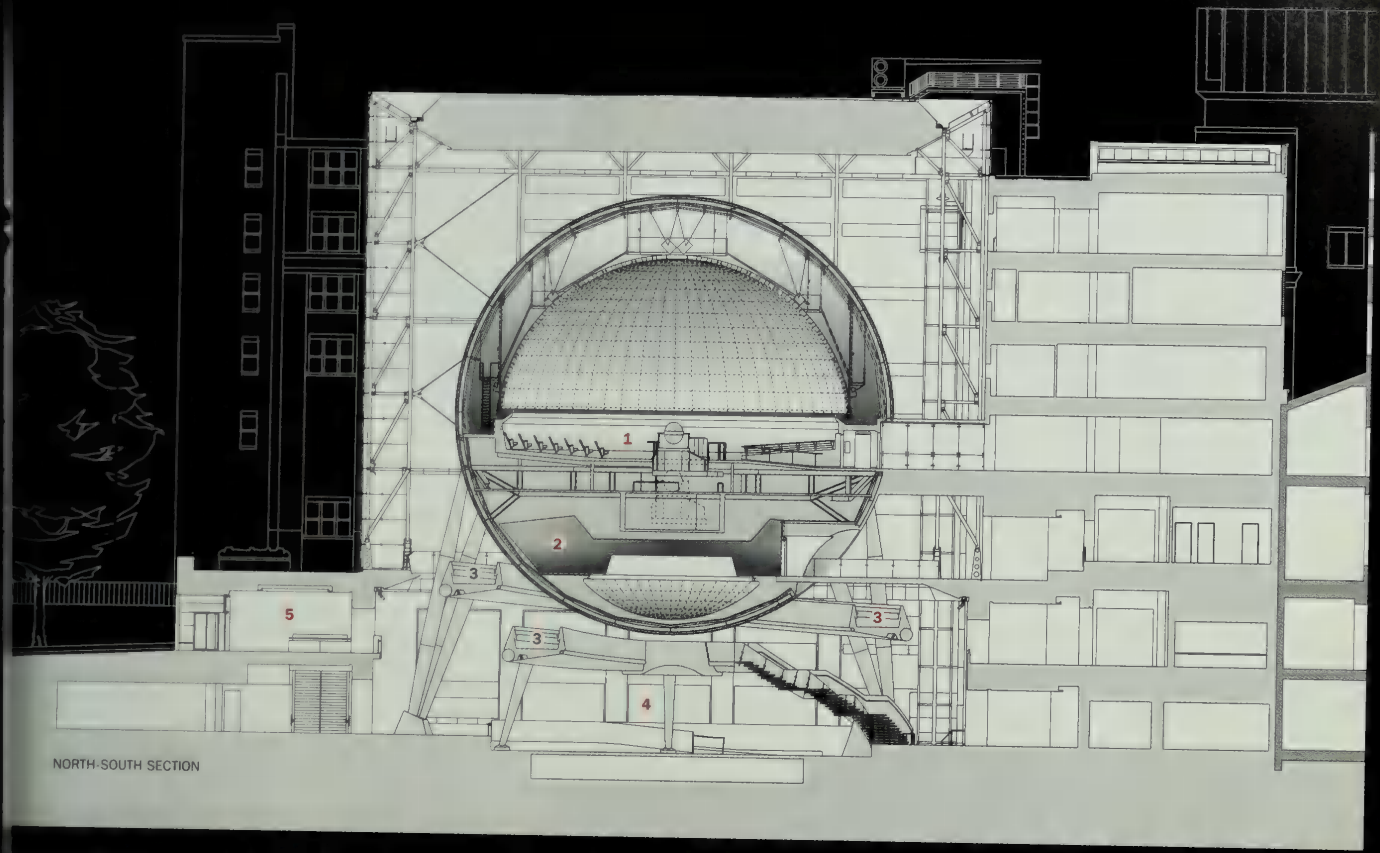


FIFTH FLOOR



FOURTH FLOOR

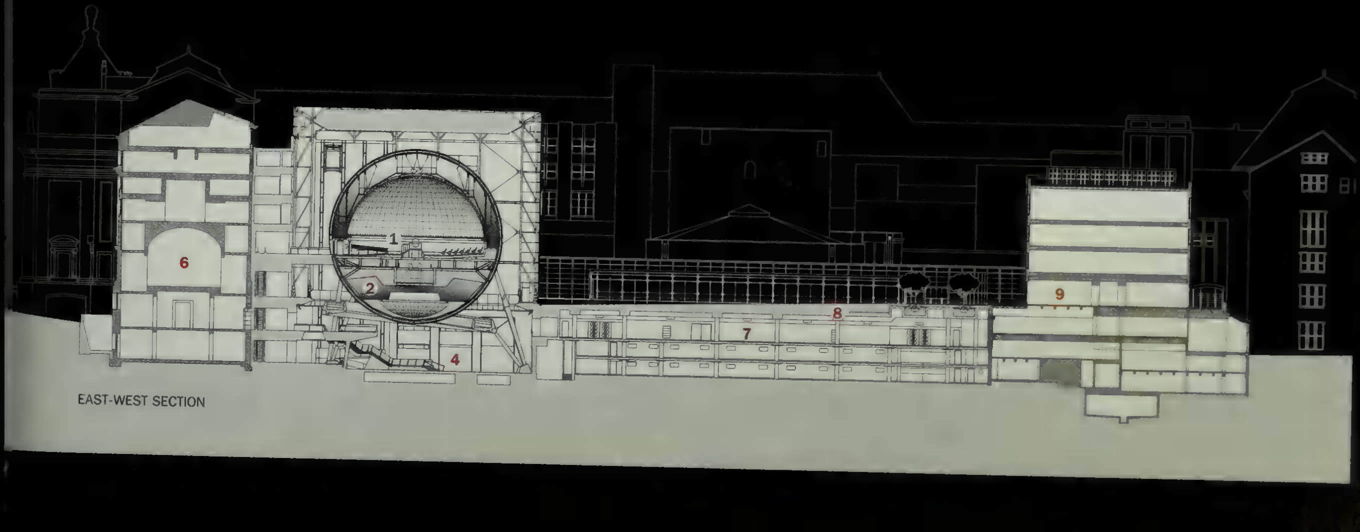
The Rose Center encompasses a total of 335,000 gross square feet and helps anchor the north corner of the American Museum of Natural History.



NORTH-SOUTH SECTION

1. *Space Theater*
2. *Big Bang Theater*
3. *Cosmic Pathway*
4. *Hall of the Universe*
5. *81st Street entry*
6. *Hall of Planet Earth*
7. *Parking*
8. *Terrace*
9. *Cafeteria*

In addition to the Rose Center, Polshek designed a three-level parking structure west of the glass cube, a glass-and-steel porch running along a terrace on top of the garage, and a new entrance on Columbus Avenue. The firm also converted an old power building into a cafe with conservation studios above.



EAST-WEST SECTION

Rose Center is comparable to I.M. Pei's pyramid at the Louvre in Paris. Both are Platonic forms executed in ethereal modern fashion, and they fit in with their heavy masonry neighbors by cloaking themselves in crystalline veils. Like Pei's pyramid, the Rose Center's glass cube changes character with the light, going from cool object to mysterious void to inviting tent. Repeat visits are required to get a full sense of its personality.

Much of the Rose Center's impact depends on its remarkably transparent enclosure. For the cube's curtain wall, the architects specified single-pane, monolithic glass, whose low iron content eliminates most of the green hue normally found in commercial glass. The 10½-by-5-foot sheets of glass are held in place by stainless-steel "spider" fittings, so no mullions are needed and the vertical plane appears almost seamless. The glass curtain is supported by a system of tubular steel wall trusses braced by high-strength, stainless-steel rod rigging. To heighten the sense of a crystal box, the architects moved support elements away from the corners and pulled the roof back from the perimeter of the cube. Daylight streams in at the edges and through a narrow skylight wrapping around the top makes the enclosure visually disappear, explains Schliemann.

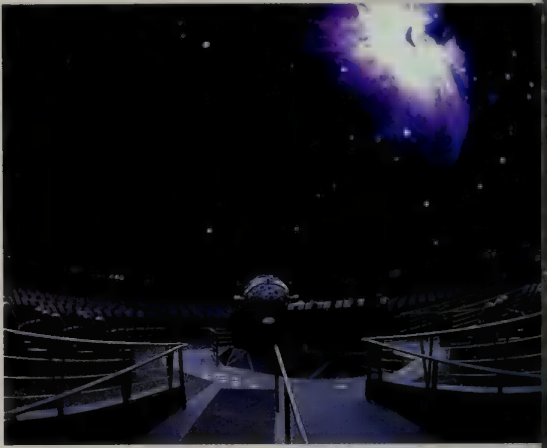
How to make an enormous globe levitate

Floating within the 120-by-120-foot cube, the metal sphere houses a new Hayden Planetarium in its upper hemisphere and a Big Bang display in its lower portion. The sphere, which is made of curving steel ribs clad with 2,474 perforated aluminum panels, rests on three clusters of tapered steel legs that attach to a series of trusses running around its equator. "We positioned the legs so they're out of the visitors' frame of reference," says Schliemann. "As a result, the sphere seems to be self-supporting."

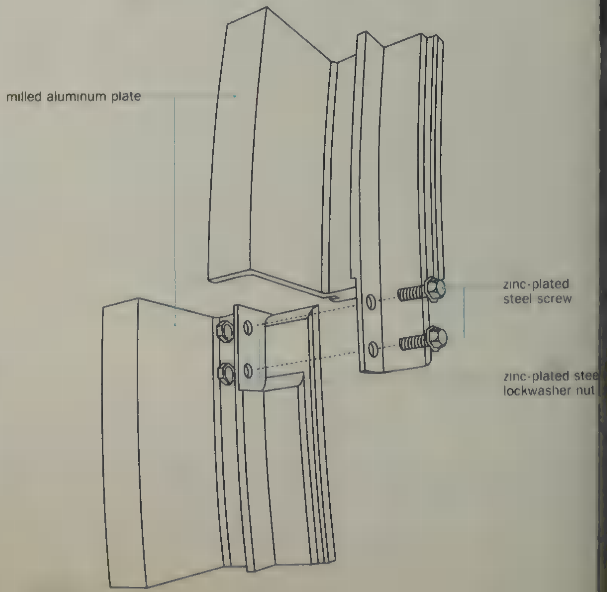
More than just a device to grab attention, the sphere helps bring scientific concepts to life. One of its important functions, for example, is to convey the varying scales of objects in the universe. So visitors walking along a gallery one level above the entry floor can compare a series of small objects to the giant planetarium sphere and get an idea of the size of the earth in relation to the sun or one star in relation to another. "When Jim Polshek showed us plans for his sphere, we immediately realized we could use it—not just to house exhibits but to communicate science," says Neil deGrasse Tyson, an astrophysicist who is the director of the Hayden Planetarium. "It's a marriage of architecture and science. It's the universe as the architect's muse."

Spiraling around the lower portion of the sphere is a 360-foot-long, 8-foot-wide ramp that takes visitors from the Big Bang show down one level to the entry floor. Called the Heilbrunn Cosmic Pathway, the ramp has exhibits that tell the 13-billion-year history of the universe from the Big Bang to the present day. Each step takes a visitor 75 million years down the timeline, with mankind's time on earth represented by the width of a human hair at the end of the path. The ramp is cantilevered from a 30-inch-wide steel torsion tube wrapping around the sphere, supported by five angled columns spread 90 feet apart. Because the ramp spirals inward and downward simultaneously, structuring the complex geometry proved difficult, says Schliemann.

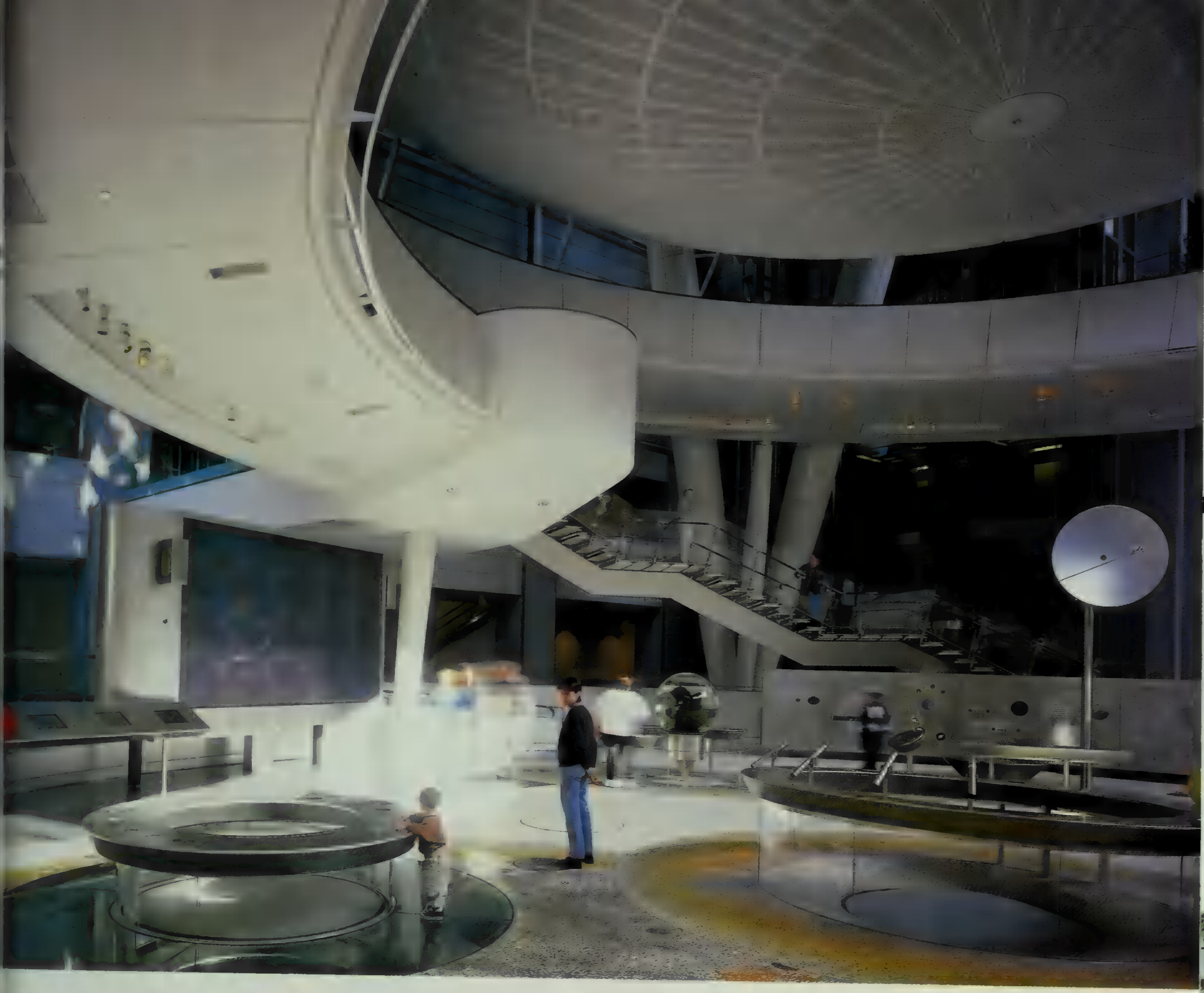
The Rose Center's exhibits, designed by Ralph Appelbaum Associates, work with the architecture to draw visitors through the great spaces. Appelbaum, who also designed the exhibits in AMNH's refurbished halls of dinosaurs and planet earth, says he used light "to tell the story." Not only are interiors bathed in daylight—in contrast to the dark, inward-focused rooms of the rest of the museum—but light (in the form of lasers) was used to etch words and images onto the exhibits' stainless-steel panels. In the Hall of the Universe, the main exhibition area under the sphere, Appelbaum pulled displays on planets, the sun, stars, galaxies,

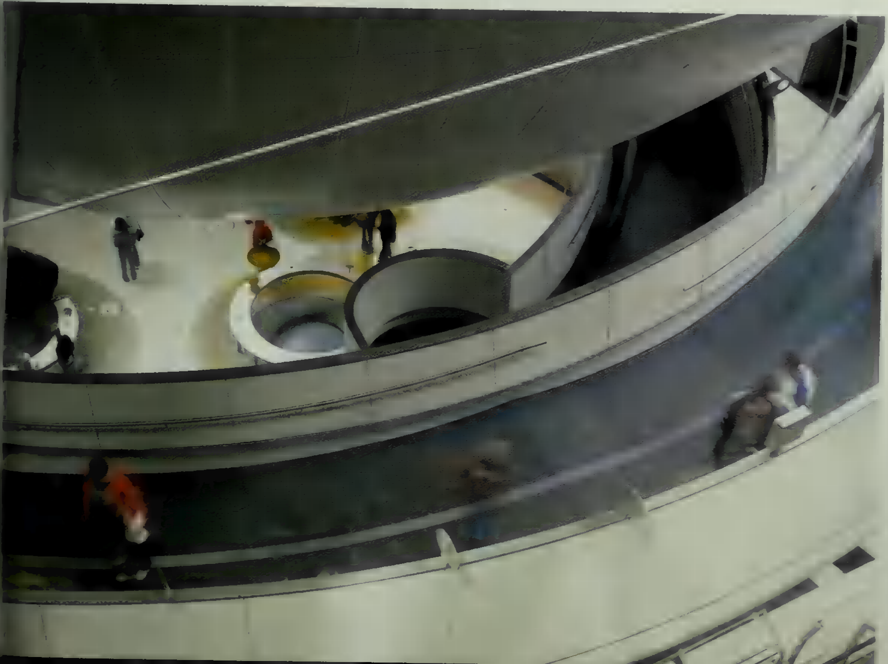


THE ROSE CENTER'S SPHERE is clad with 2,474 perforated, light-gauge metal panels fabricated by Los Angeles–based Ceilings Plus. The planetarium's sphere was the company's first attempt t manufacture panels curved in two axes simultaneously. More tha 150 sheets of detailed CAD drawings, plus many fabrication and erection drawings, were shipped to the architect's office, then con verted to CAD/CAM files that were used to control equipment that cut and perforated the aluminum. The perforations—estimated by the manufacturer to be 5,599,663 holes one-sixteenth of an inch thick—occupy 30 percent of the surface area of the panels. The panels, which were gently stretch-formed into spherical segments include a nonwoven acoustical fabric applied in the factory to thei inside surface. This fabric layer helps absorb noise so visitors inside the sphere can enjoy the new space show (above). For mor information on the digital technology involved in the Rose Center' creation, see Digital Architect on page 177. *Rita Catinella*



SPHERE PANEL AXONOMETRIC





The 360-foot-long, 8-foot-wide Cosmic Pathway (left) includes exhibits that tell the 13-billion-year history of the universe. In the Hall of the Universe, fixed exhibits that explain basic elements of the universe are combined with a large electronic wall (left in photo above) that supplies constantly updated information and images.

the universe to the periphery of the space to keep it uncluttered.

Standing under the sphere, visitors get fragmented views through the Rose Center and out to Beaux-Art apartment buildings across the street. The great mass of the planetarium sphere and planets hanging from the ceiling seem to deform the cubic volume and create a sense of animation that makes science come alive.

A virtual trip to the cosmos

The featured attraction is still the planetarium show. But what was simply an illuminated projection of the night sky on a domed ceiling at the old Hayden Planetarium is now a sophisticated, multimedia Space Show that employs a battery of projectors, computer graphics that render parts of the universe in three dimensions, and a network of speakers that can move sounds around the 432-seat theater. Narrated by Tom Hanks, the show takes visitors on a journey beyond the sky seen from earth and out into the nether reaches of space. The perforated aluminum dome on which the show is projected is attached to a steel lattice hung from the great sphere. Between the sphere and the dome is a 5-foot-wide space for catwalks and equipment.

Circulation into, out of, and through the Rose Center was critical to the project's success, says Polshek. Instead of being an isolated "stepchild" to the rest of the museum, the planetarium today is part of a seamless flow leading directly into the Hall of Planet Earth and then to the Hall of Biodiversity. The new entrance on Columbus Avenue to the west helps integrate the museum with its Upper West Side neighborhood, as will the new terrace and the enclosed glass porch running along the south side of the terrace. Inside the Rose Center, vertical circulation plays an important role in shaping the visitor's experience. Although there are many ways to move through the facility and explore the different exhibits, most visitors first go down to the lower level, wander around the Hall of the Universe, then ride an elevator up to the third floor for the Space Show. After their virtual trip to the cosmos, visitors walk down to the lower portion of the sphere where they learn about the Big Bang theory, then take the spiraling ramp down to the entry level.

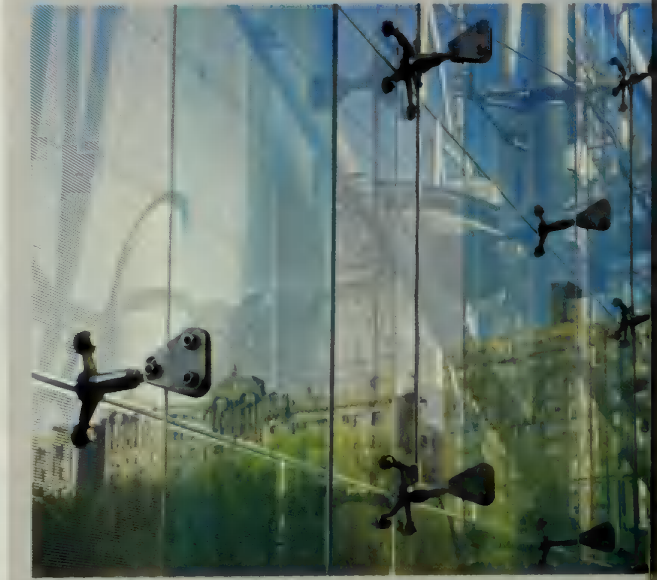
The project has elicited raves from the critics. Herbert Muschamp, of the *New York Times,* wrote, "What we see on approaching the Rose Center may well be the finest example of glass curtain wall construction ever realized in the United States." In the *New Yorker*, Paul Goldberger said, "By the standards of New York, where cultural daring is usually cut off at the knees, this may be the most important building of the decade." And Blair Kamin in the *Chicago Tribune* called the Rose Center "an architectural big bang that ought to explode forever the outdated theory that modernism is incapable of making civic monuments."

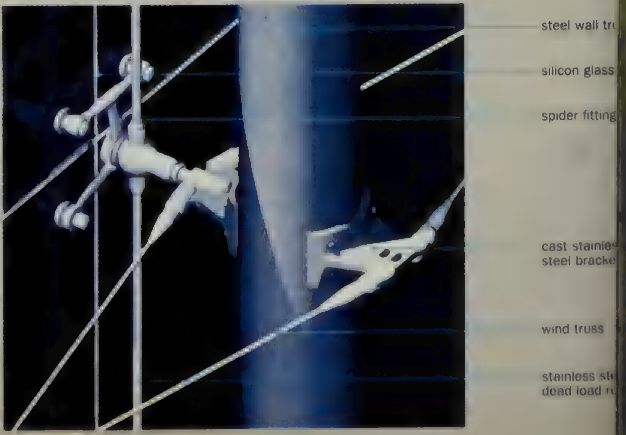
Embraced by opinion makers and the masses, the Rose Center is taking its place as a New York landmark. According to Polshek, the city provided the right soil for it. "This project could only have happened in a great metropolis," states Polshek. As the museum's Futter put it, "This is an enormously significant symbol of New York. It's rekindled a sense of optimism and excitement about building in New York City." ■

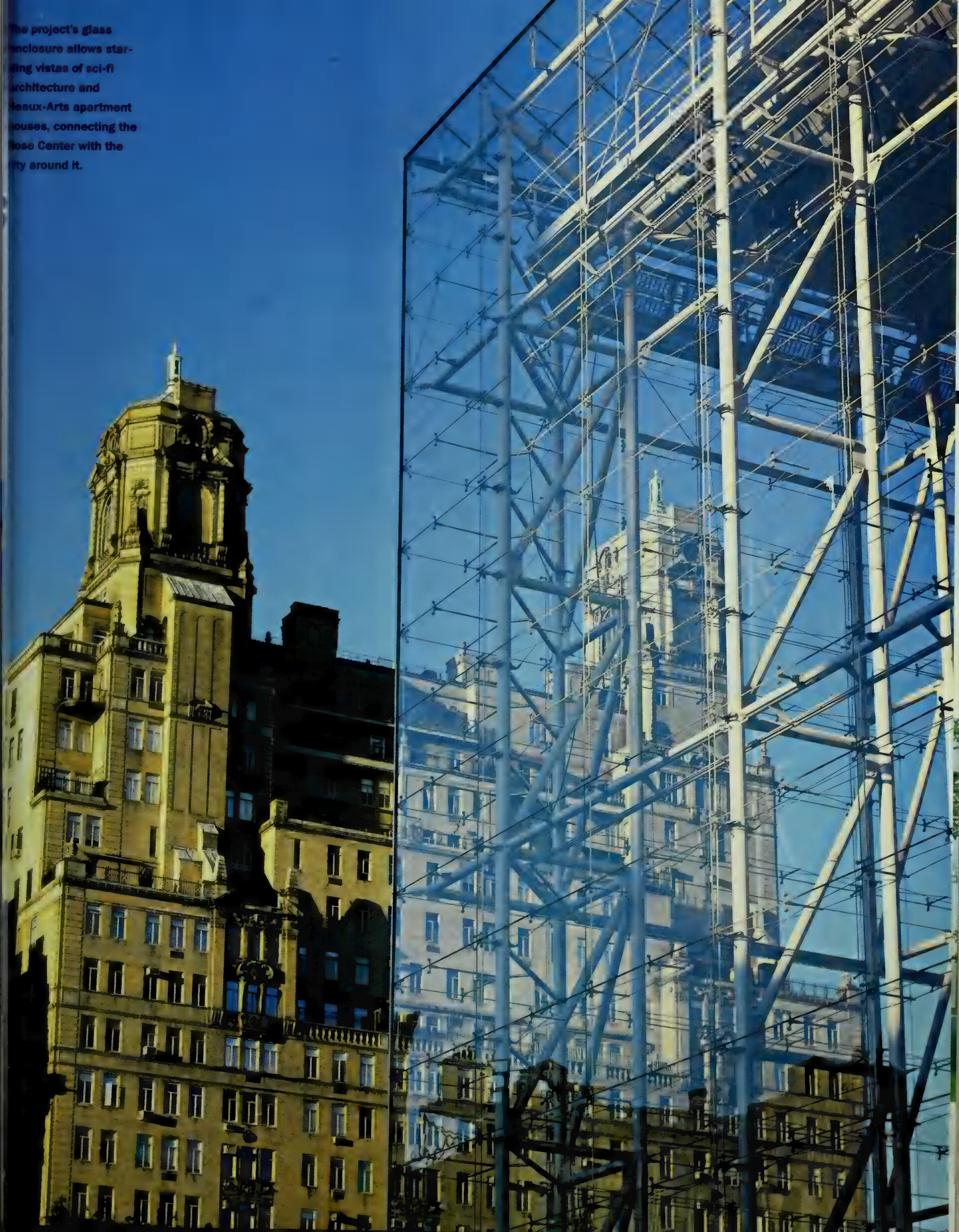
Sources
Steel-pipe truss system: *Chicago Ornamental Iron Co.*
Tension structure: *TriPyramid*
Metal-and-glass curtain wall: *Pilkington, W & W Glass Systems*
Brick cladding: *Glen-Gery Brick*
Prepatinated copper panels: *Revere Copper Products*
Copper rain screen: *Pohl*
Interior ambient lighting: *Edison Price Lighting; Forum Lighting*
Downlights: *Bega; National*

WWW *For more drawings, photos, and technical information about the Rose Center, as well as a complete list of and links to the people and projects involved, go to* **Projects** *at:* **www.architecturalrecord.com**

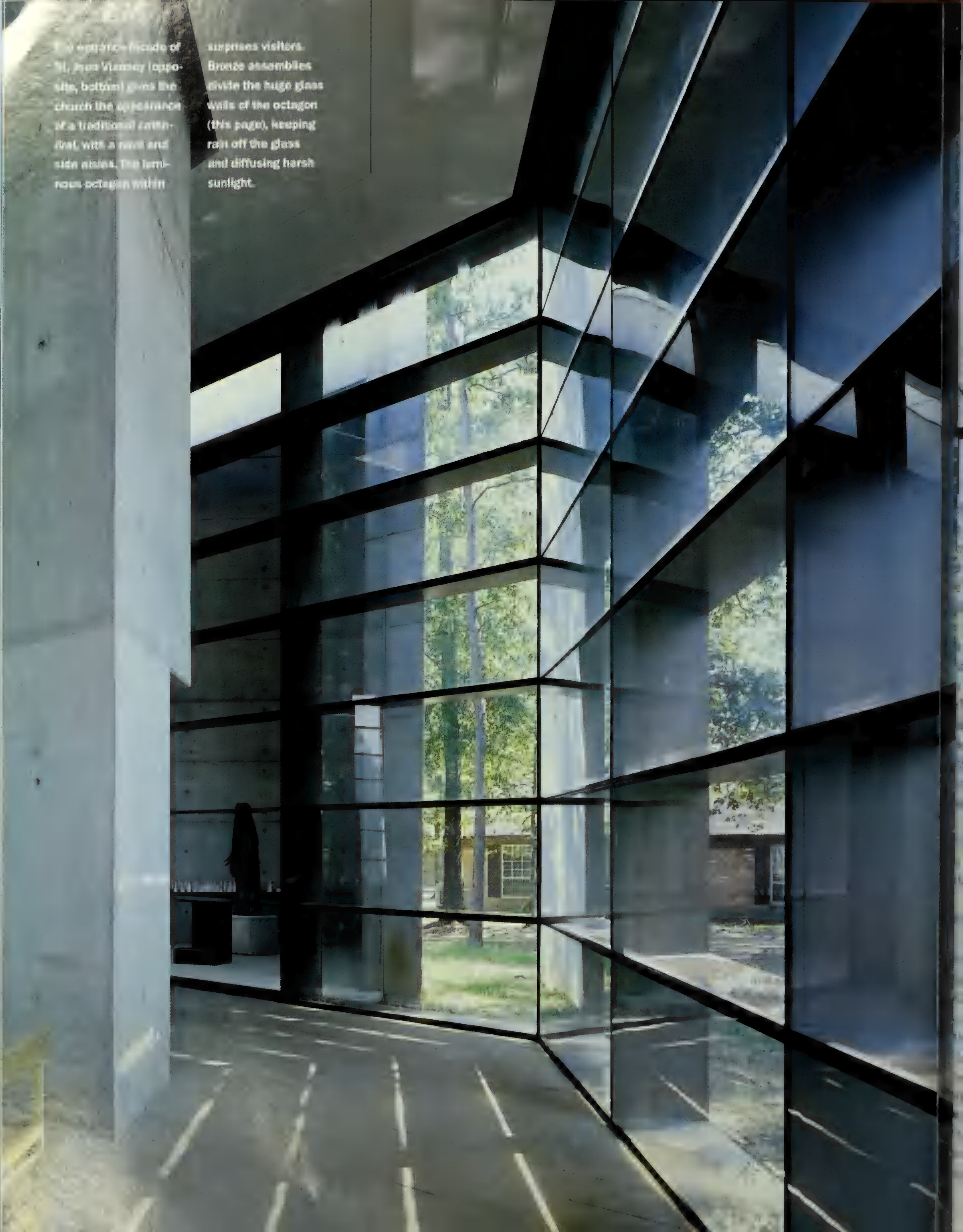
THE 95-FOOT-HIGH GLASS CUBE, one of the Rose Center's hallmarks, features 30,000 square feet of custom-designed curtain wall made of extremely clear "water white" glass. The 10½-by-5-foot sheets of half-inch-thick, monolithic, low-iron glass are held in place by stainless-steel "spider" fittings, so no mullions are needed. Instead of being broken up into panes, the glass wall is interrupted only by half-inch-thick clear silicon glass joints. The transparent wall is supported by a system of 6- and 8-inch tubular steel wall trusses braced by high-strength stainless-steel rod rigging and steel-cable wind trusses that the architects call "fish" trusses because of their shape. Each piece of glass is supported separately by the tension rigging, so if one piece breaks, the integrity of the wall is not threatened. The truss-and-tension-rigging system allows the glass walls to move as much as three-quarters of an inch off the vertical in either direction. On the west side of the cube, the glass has a 50 percent pale frit on it to reduce the impact of the sun. ***C.A.P.***





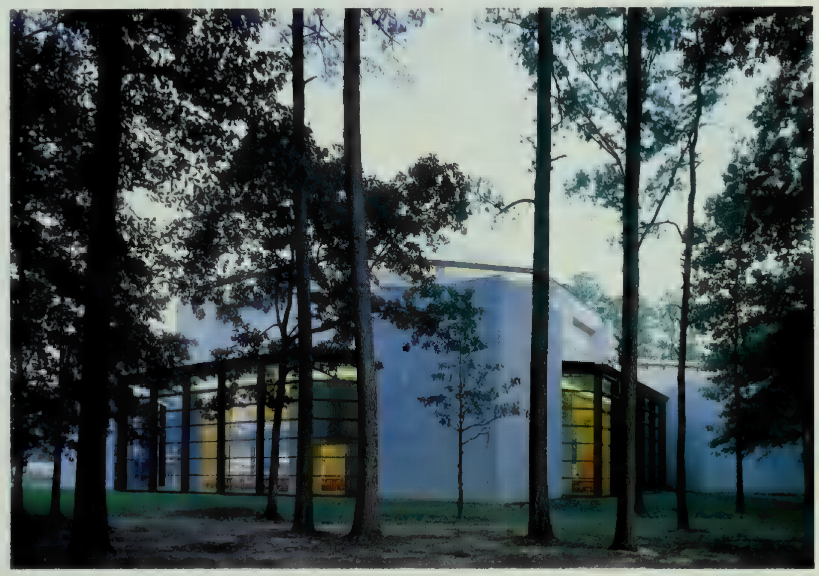


he project's glass
nclosure allows star-
ling vistas of sci-fi
rchitecture and
eaux-Arts apartment
ouses, connecting the
ose Center with the
ty around it.



The entrance façade of St. Jean Vianney (opposite, bottom) gives the church the appearance of a traditional cathedral, with a nave and side aisles. The luminous octagon within surprises visitors. Bronze assemblies divide the huge glass walls of the octagon (this page), keeping rain off the glass and diffusing harsh sunlight.

Trahan **Architects** uses sun-warmed concrete to create a place for faith to flourish in Baton Rouge: **ST. JEAN VIANNEY** Catholic Church



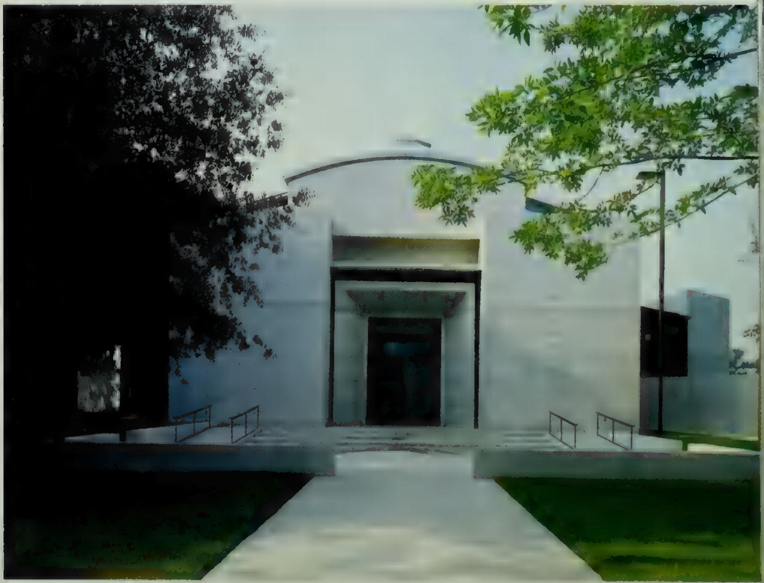
y Christine Kreyling

The 1970s suburb five miles east of downtown Baton Rouge—a world-o-Wal-Marts, McDonald's, and strip malls—is an unlikely locale for high architectural drama. The more immediate ontext is equally unpromising. A bland brick school, ibrary, athletic facilities, and administration offices on the 10-acre Paris campus have all the curb appeal of the typical ranch bank. But within this "geography of nowhere" rahan Architects has made a "somewhere" for the Roman atholic parish of St. Jean Vianney.

The austere facade of the church seems to step utside suburbia—and history—entirely. A shallow fore-ourt and a series of gently rising steps lead to a pair of 4-foot bronze doors within a chamfered concrete rame. This entrance is surrounded by walls and an ellip-ical pediment of more concrete blocks. The horizontal profile of each olid block emphasizes stability while establishing the basic module for he entire structure. Largely unadorned concrete planes express the rchitects' feeling for the solidity of the wall as a timeless component of onumental architecture.

The tripartite division of the facade implies that what lies ehind is a basilica, whose nave and side aisles have been the norm for atholic houses of worship since Constantine turned Christian. But side, the Trahan firm revived an even older architectural tradition.

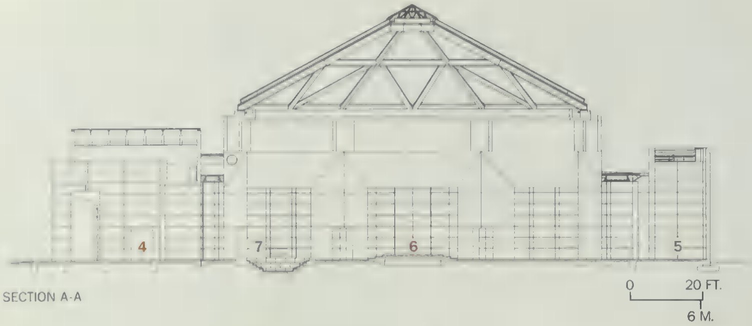
Passing through the concrete narthex into the body of St. Jean ianney, we find, not a long aisle and high altar, but a luminous ring—a



hristine Kreyling is a freelance writer who serves as the architecture and rban planning critic for the Nashville Scene. *Kreyling co-authored and co-edited e book* Classical Nashville *in 1996.*

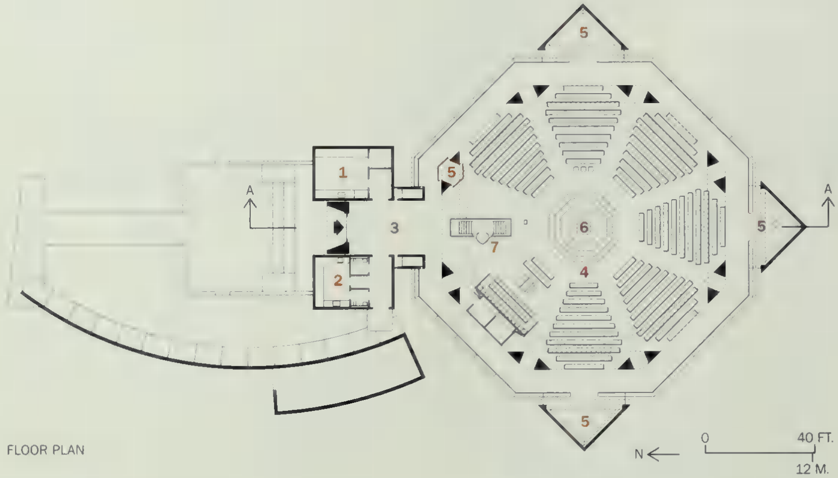
---

oject: *St. Jean Vianney Catholic hurch, Baton Rouge, La.*
ient: *Saint Jean Vianney Parish—ocese of Baton Rouge*
chitect: *Trahan Architects — ctor F. Trahan, III, AIA, design incipal; Richard Simonton, AIA, oject architect*
Associate Architect: *Brad Davis, project designer*
Engineers: *Schrenk & Peterson Consulting Engineers; Associated Design Group*
Consultants: *Marchita Mauck, Ph.D. (liturgical); Richard Boner (acoustical); Donald Kaufman (color)*



SECTION A-A

1. *Sacresty*
2. *Narthex*
3. *Workroom*
4. *Sanctuary*
5. *Chapels*
6. *Altar*
7. *Baptismal pool*



FLOOR PLAN

**The church uses sun-
light to dramatic effect
Strategically placed
sidelights form hyphen
between the piers and
the concrete walls of t
chapel, allowing natura
light to dramatically ill
minate religious
sculptures (below). All
indirect lights are com
pletely concealed from
view (opposite).**

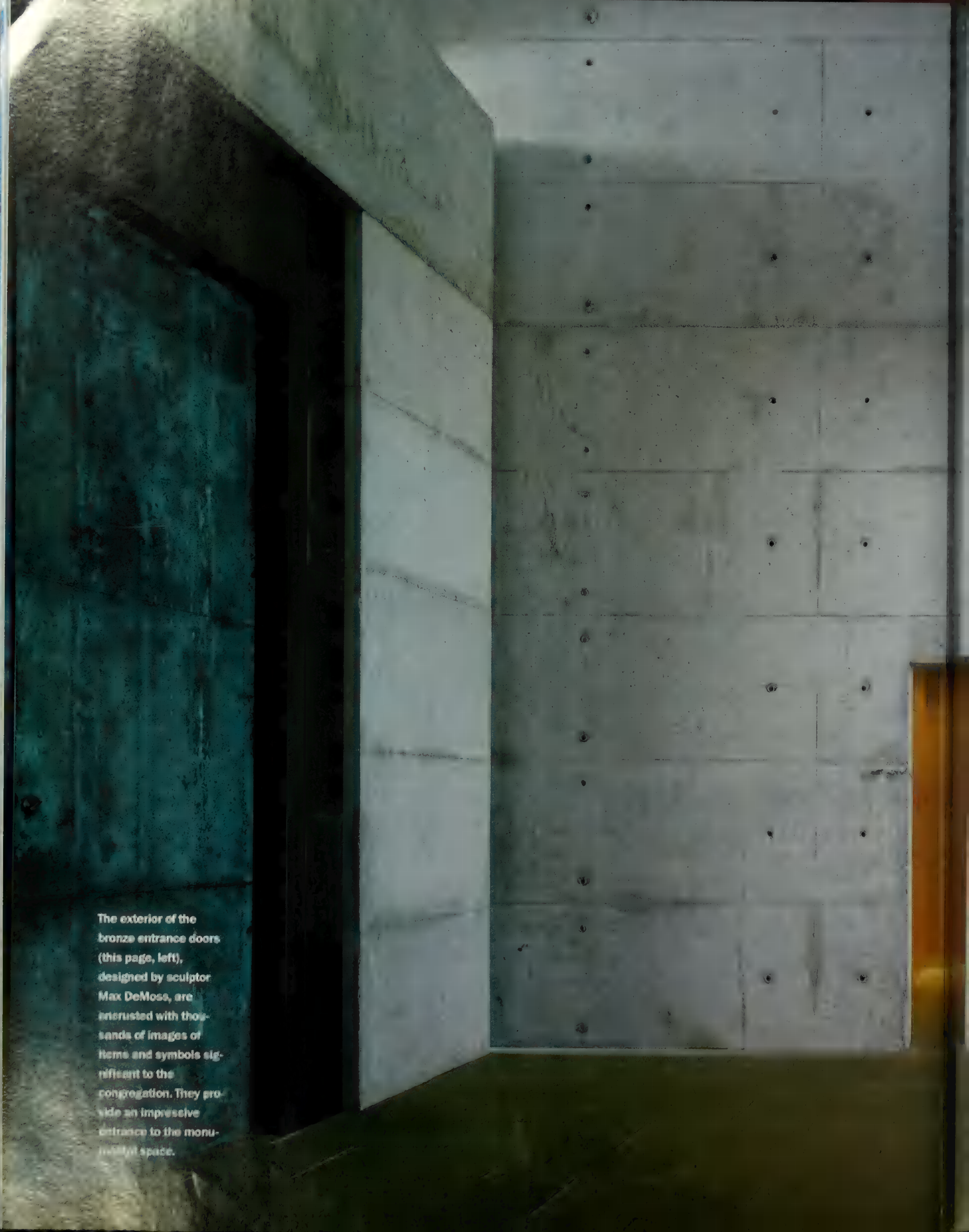
1,600-square-foot octagon of glass punctuated at the cardinal points by triangular concrete chapels. Massive, triangular concrete piers divide the ambulatory from the central gathering space. The transition from darkness into light is as theatrical as the passage from the Pantheon's typical Roman porch into the cosmic sphere of the temple proper. A square bronze altar table rests dead center under an oculus. Under that same oculus, traditional baptismal practices take place in the immersion pool (covered with a metal grille for safety when not in use) and the baptismal bowl, or "sugar kettle"—a name that goes back to the days when kettles from Louisiana sugar plantations were used in church ceremonies.

Pastor Donald Blanchard didn't request ancient allusions when he commissioned Trahan Architects to design a church with a 1,000-seat capacity, with a budget of under $3 million, for his growing parish. The reverend's goal was to give architectural expression to Catholic liturgical reforms of the 1960s.

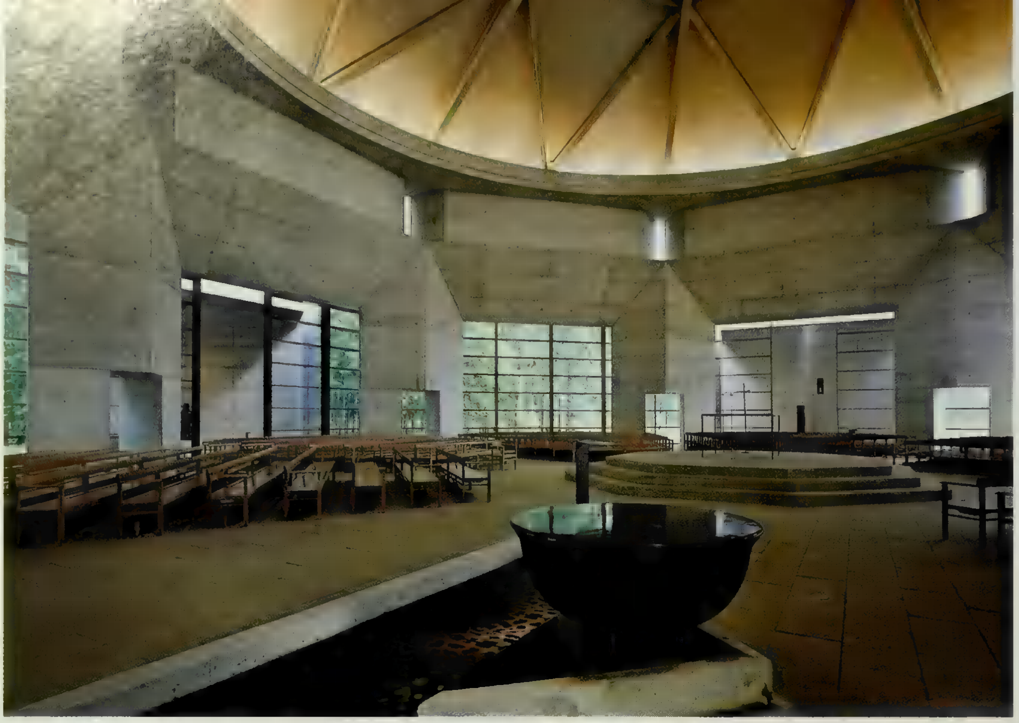
"Father Blanchard gave us only three rules," recalls principal architect Victor "Trey" Trahan. "The plan had to realize the liturgy established by Vatican II, natural light had to be integral to the design, and we could use any materials except concrete. Guess we did two out of three," Trahan laughs.

Priest and architects toured the country to see how recent Catholic architecture had answered the Second Vatican Council's call for new churches to "form a complete and organic unity, clearly expressive of the unity of the holy people . . . and configured so that the assembly experiences itself as a face-to-face community," rather than a passive flock watching an altar-railed priest celebrate Mass from a distance.

"We found churches which responded to Vatican II reforms only partially, with weak, fan-shaped gathering spaces," Trahan says. Such



The exterior of the bronze entrance doors (this page, left), designed by sculptor Max DeMoss, are encrusted with thousands of images of items and symbols significant to the congregation. They provide an impressive entrance to the monumental space.



St. Jean Vianney's baptismal font (left and opposite) recalls a traditional Louisiana sugar kettle used on sugar plantations and for church services. Water flows from the kettle into the pool, where baptism by immersion—a symbol of purification—takes place. For safety purposes a decorative grille covers the pool when it is not in use.

SCULPTED BRONZE DOORS

In most Catholic churches, figurative imagery has a didactic purpose. The bronze doors of the Baptistery in Florence, for example, feature scenes from the Old Testament, crafted to teach the lessons of the Bible to the 15th-century faithful. The doors of the church of St. Jean Vianney, on the other hand, immortalize the lives of the faithful themselves.

Designed by sculptor Max DeMoss, who is also responsible for the church's tabernacle and statuary, the doors are encrusted with wedding rings and rosaries, eyeglasses and knitting needles, the footprint of a baby and the hands of the pastor and the church's architects, among thousands of images. Members of the congregation, asked by Father Blanchard to bring objects personally sacred to them to the church parking lot one weekend, waited for hours to press their icons into trays of clay. DeMoss then took the clay back to his studio in Hemet, Calif., where he laid out the images and cast them into 24 bronze panels which he assembled into doors.

"The idea was to create a portal that leads from the physical to the spiritual," Blanchard explained in a 1998 interview with Baton Rouge art critic Ann Price. "You leave the physical things at the door, which is the threshold into this spiritual space."

THE FIRM: TRAHAN ARCHITECTS

In creating a Roman Catholic church with a central plan, Trahan Architects accomplished what many a Renaissance architect—Leonardo, Bramante, Michelangelo—sketched but few put on the ground. Making history is an audacious role for a firm whose members have little of their own. The median age of the 12-person studio is under 30. Babies making buildings.

That youthful profile is the deliber- (continued on page 240)

designs compromise the intimacy of the congregational space with t need for a processional path for sacraments such as communions a confirmations, marriages, and funerals.

Trahan team architect Brad Davis reminded Blanchard that t central plan of many early Christian and Byzantine churches was a appropriate form for a liturgy that sought to revive the early Christia experience of the Mass as an intimate gathering of comrades. T design team set up 1,000 chairs on the building site, placed plywood the center to stand for the altar platform, and located statues where t chapels would be, to allow parishioners to physically experience a ce tralized ground plan. The mock-up demonstrated "that we could g 1,000 people in only 11 rows," Davis says. The architects satisfied pr cessional needs by drawing a plan for a sacramental axis—baptism pool, ambo (or pulpit where gospel is read), altar, and tabernacle for t communion bread—through the center of the octagon.

Trahan ultimately posed a clear choice to Blanchard: a trad tional cruciform church, which establishes a hierarchy of spaces, o central plan. Blanchard made the decision to avoid hierarchy.

Once over the hurdle of the central plan, the architects had convince Blanchard to pour his church in concrete.

Other churches the architects had surveyed "seemed cluttere full of distractions" from the spirituality they were trying to foster, Trah says. "We wanted to use the strength of the mate- (continued on page 2

Sources

Door hardware: *Blumcraft (locksets, closers, hinges and exit devices)*

Built-up roofing: *Firestone Building Products*

Roofing: *Rheinzink (metal panels)*

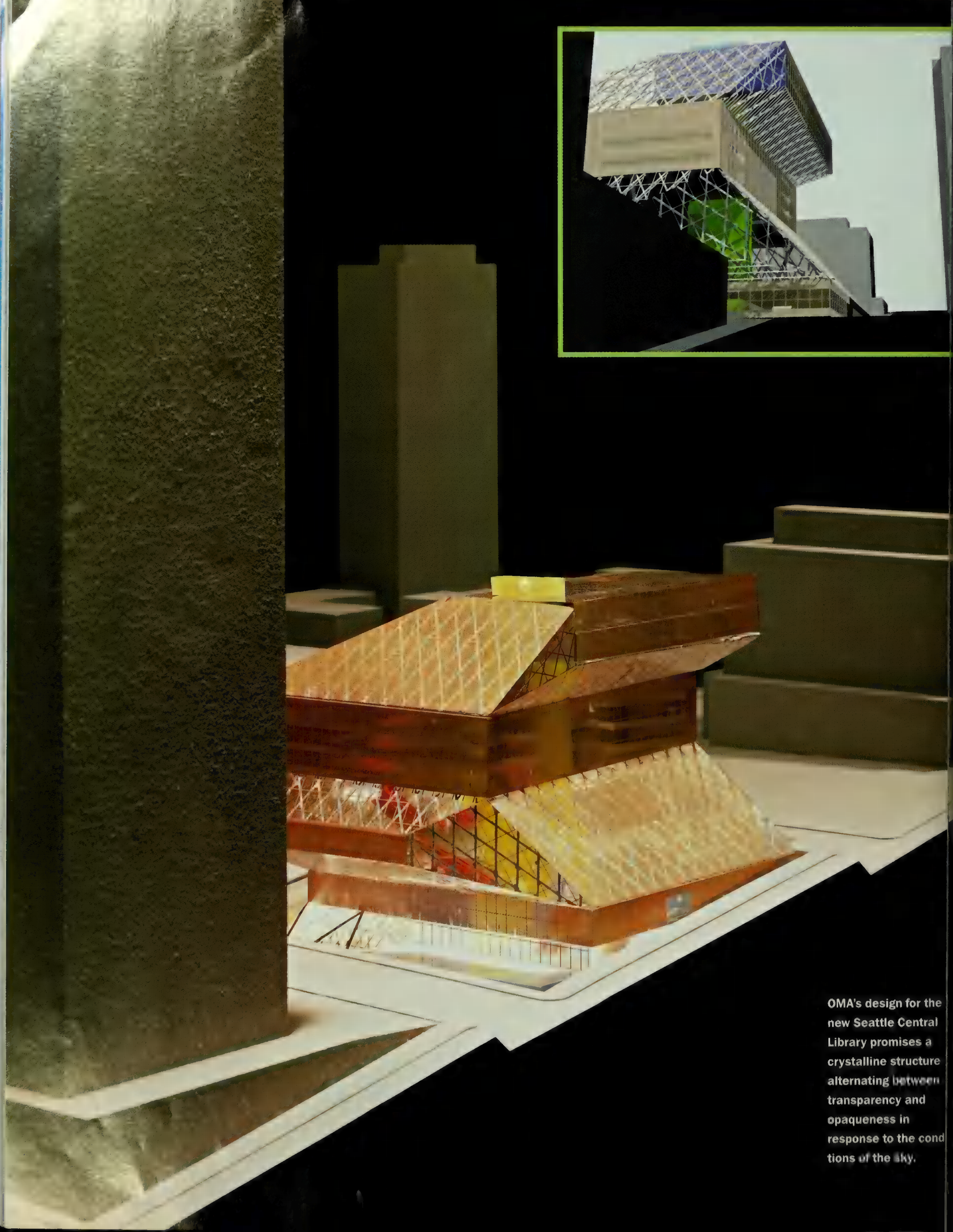
Skylights: *Super Sky Products*

Entrance doors: *Blumcraft*

Furnishings: *California Artist(altar, reconciliation screen and prayer kneelers); Benchworks (pews)*

Lighting: *Elliptipar (interior); Prescolite (lighting system); Brandhurst (exit signs); Kim (exterior)*

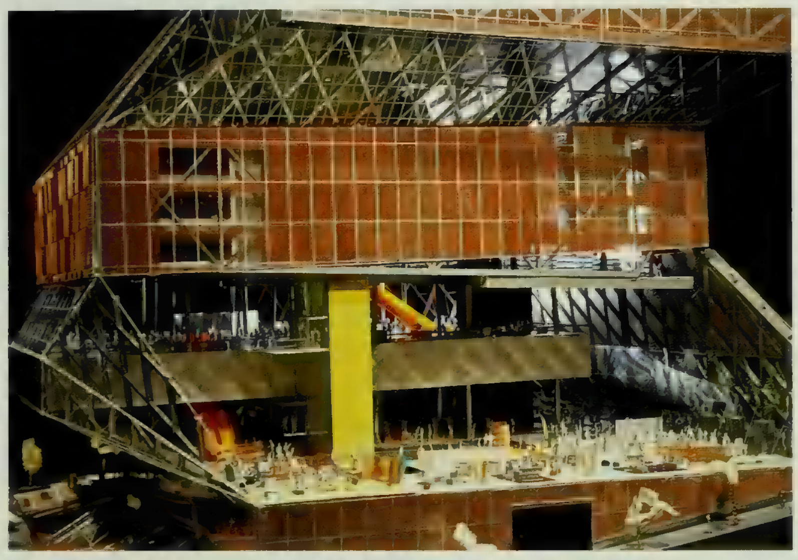
WWW *For more information on the people and products involved in this project, go to* **Projects** *at:* **www.architecturalrecord.com**



OMA's design for the new Seattle Central Library promises a crystalline structure alternating between transparency and opaqueness in response to the conditions of the sky.

How Seattle learned to stop worrying and love Rem Koolhaas' plans for a new CENTRAL LIBRARY

By Sheri Olson, AIA



Rem Koolhaas is a phenom here in Seattle; presentations of his plans for the new $159 million Central Library draw standing-room-only crowds; front-page articles and editorials regularly analyze everything from his Pritzker Prize to his Prada wardrobe; people stop him on the street to discuss the library's crystalline steel-and-glass design. Although there are detractors—some have dubbed the library "a cheese grater"—the project has achieved a surprising level of acceptance within an architecturally conservative community. The yber-elite is wowed by its high-tech zeitgeist, while Koolhaas' talent for istening to suggestions from public workshops, the design commission, nd library staff has swayed the process-loving populace.

The road to Koolhaas' success was paved by city librarian eborah L. Jacobs' genius for consensus building. Single-handedly she eversed public opinion on a previously rejected $196 million bond meaure, securing the largest chunk of tax money for libraries in U.S. history. olicitous of diverse opinions, Jacobs bristles at attacks on the project, ublicly accusing one local columnist of deliberately misconstruing the acts. Jacobs makes a point of discussing the Central Library at each of the ranch library meetings she attends several nights a week. "Once people et how OMA's design works, it excites the heck out of them," says Jacobs. he is as warm and fuzzy as Koolhaas is intimidating, and they make an nlikely but formidable pair with a facility for rallying support around a adical—and risky—public work.

Jacobs set the library's course with a streamlined and open selecon process. "It sets a gold standard for selection processes," says Rick undberg, faia, head of the design commission. The library board, aided by citizen's advisory panel, chose five finalists from a pool of 29 international pplicants. When Foster & Partners and Cesar Pelli balked at an uncomensated 48-hour charrette, three firms remained—the Office for letropolitan Architecture (OMA), Rotterdam (in joint venture with LMN rchitects, Seattle); Steven Holl, New York; and ZGF, Portland. verwhelmed by the turnout, the organizers were forced to change venues veral times over the course of the three-day presentations to accommodate e growing audience lined up to see Holl and Koolhaas go head-to-head.

The commission was Holl's to lose. A Washington native and the designer of Seattle University's St. Ignatius chapel, he was considered the local favorite and endorsed by the Seattle Times. But the library board came back from a whirlwind European tour impressed by OMA's skill with inexpensive materials and its ability to stay within budget. In the end, the board's decision was not based on the bottom line: "OMA's spaces were fun and interesting to be in," says library board president Betty Jane Narver.

Koolhaas' design links Seattle's challenges to those faced by other cities today. He casts the library at the vortex of the two most dramatic changes in modern life over the last decade: the erosion of the public realm and the explosion of new technologies. "The city used to be free. Now you have to pay for it," he says. In this unrelenting commercial environment, Koolhaas believes libraries have unwisely positioned themselves as the last moral stronghold, essentially pitting books against computer chips. "The modern library, especially in a cyber-city such as Seattle, must transform itself into an information storehouse aggressively orchestrating the coexistence of all available technologies," says Koolhaas.

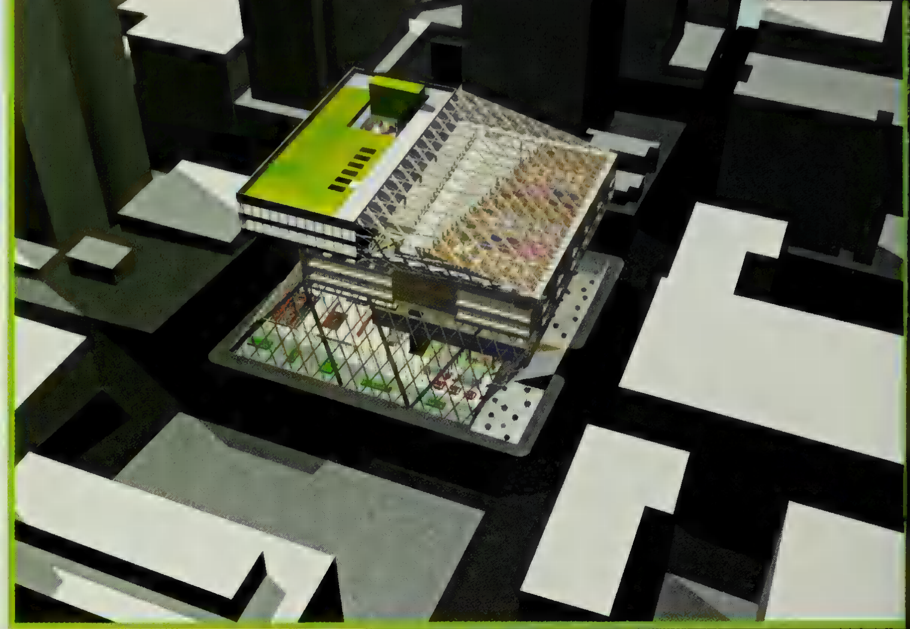
During a three-month study of the relationship between digital information and books, OMA called on local giants (Microsoft, Amazon.com, and Teledesic, among others) that have a knack for predicting the future and, more important, for generating new wealth: Seattle

heri Olson, AIA, *is* Record*'s Seattle-based contributing editor and the author of the rthcoming* Miller/Hull Partnership *(Princeton Architectural Press, spring 2001).*

Project: *Central Library, Seattle*
Architect: *OMA—Rem Koolhaas, partner in charge; Laura Gilmore, Bjarke Ingels, Antti Lassila, Anna Little, Joshua Ramus, Joao Ribeiro, Natasha Sandmeier, project team*

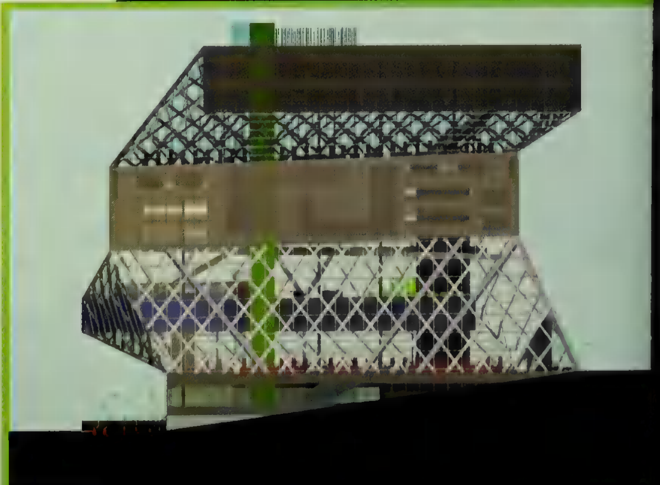
Associate Architect: *LMN—Jim Brown, Adam Hunter, Damien McBride, John Nesholm, Robert Zimmer*
Engineer: *Ove Arup—Cecil Balmond, Anders Carroll, Chris Carroll, Alistair Guthrie, Stephen Jolly, Atila Zegiolu*

has an estimated 10,000 millionaires—more per capita than any other U.S. city according to a special report by National Public Radio. Drawn by Koolhaas' avant-garde aura, a new breed of philanthropists has embraced the library as a particularly hip cause, while shunning many other nonprofits. "Rem sparked an interest with the young tech community; there's a contingent that comes to every event," says Jacobs. The presence on the library board of former Microsoft CFO Greg Maffei, one of the most admired tech-executives in the country, signifies a high level of acceptance within the dot-com community. When Bill and Melinda Gates gave $20 million to the library, they encouraged others to make generous contributions. An additional $24 million poured in from corporations, private foundations, and individuals, allowing the library foundation to increase its private fund-raising goal from $40 to $60 million.



Conceptually, the library design doesn't break new ground for OMA—Koolhaas' fascination with the superposition of programs goes back to his 1978 Delirious New York—but its enigmatic form was enough to shock a lunchtime audience that turned out last December to see the schematic design. Blocks of floors slip and slide almost 50 feet out of vertical alignment inside a diamond-patterned mesh woven by I beams and steel tubes. Cloaked by a continuous glass curtain wall, the structural skin minimizes the presence of trusses and columns on the interior and unifies the shifting shape.

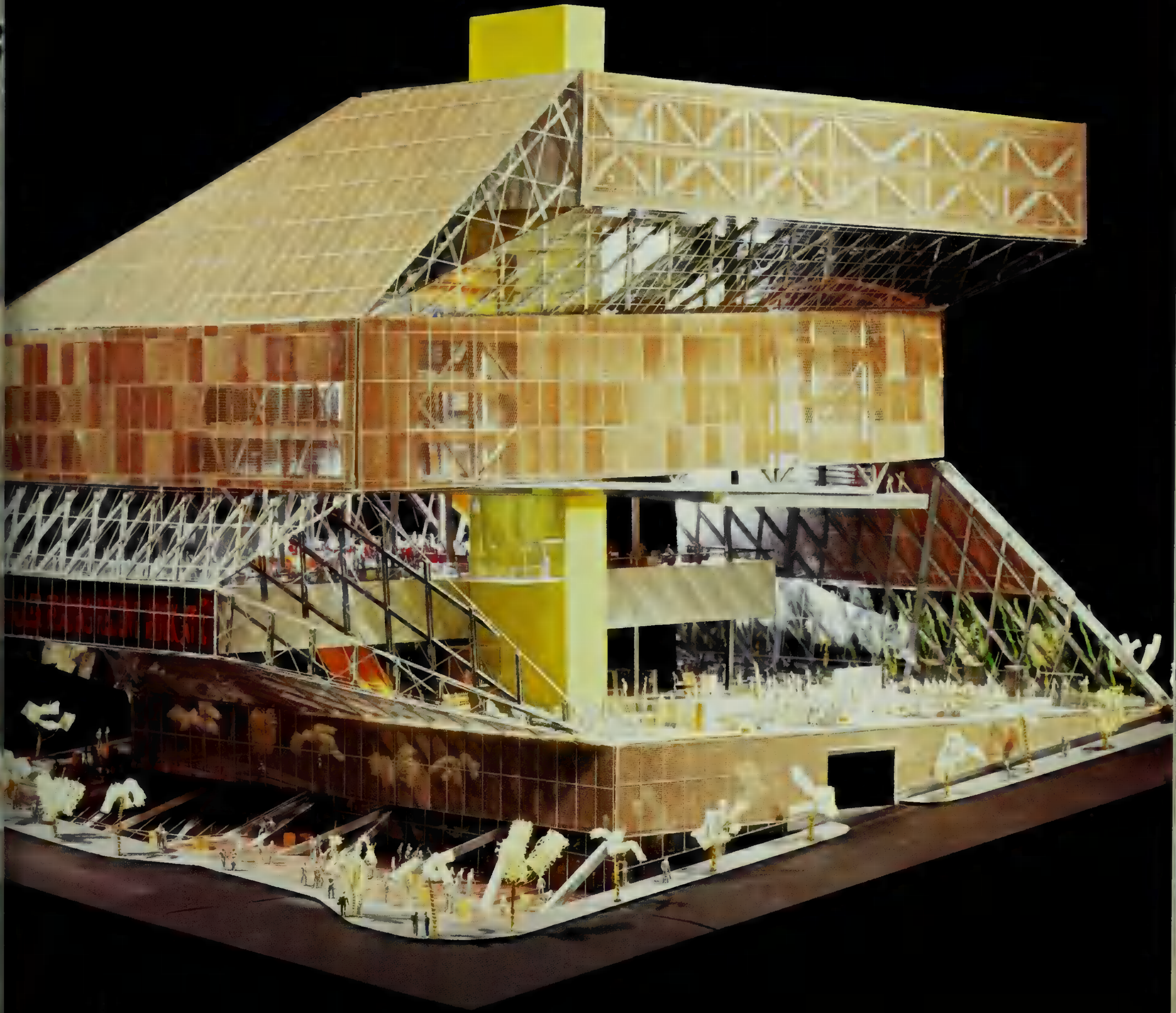
Working with eye-popping graphics by his long-time collaborator Bruce Mau, Koolhaas built a case for the faceted form by detailing how it would address the twin challenges faced by libraries today: the unpredictable proliferation of new technologies and the multiplication of its social obligations. OMA's strategy divides the 335,000-square-foot project into distinct spatial compartments equipped to meet technological or social needs while preventing the encroachment of one upon the another. "By combining like with like, five platforms have been identified and articulated, each housing a programmatic cluster," explains Koolhaas. Because every platform is designed for a unique purpose (parking, staff area, assembly, books, offices), they vary in size and opacity. Alternating between these five floating boxes spaced over the library's eleven floors are four open public spaces (kid's area, living room, mixing chamber, and reading room) where patrons can meet, search the Web, or sit and read.



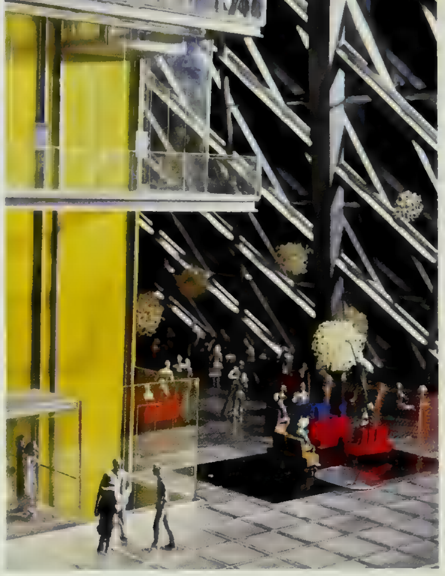
The project will replace the dilapidated library that was built in 1959 on a steep, one-block site downtown. One entrance to the new library will be on the downhill side of the site, through an obliquely angled portico along Fourth Avenue. The first in-between space, sandwiched between a 177-space parking garage below and the staff platform above, is a children's library—minus the "condescending attitude," says Koolhaas. Sharing the first level is a 275-seat auditorium visible from the street, the multilingual collection, and a circulation area for adults.

The uphill entrance, off Fifth Avenue, opens into the main lobby and what OMA envisions as a living room for the city. Islands of Persian rugs and cushy couches will float on an electronic billboard floor juxtaposing classic definitions of comfort with the hyper-modern. With lights underneath transparent panels on pedestal flooring, this "billboard" will communicate library events to patrons with changing colors or graphics.

"ONCE PEOPLE GET HOW OMA'S DESIGN WORKS, IT EXCITES THE HECK OUT OF THEM," SAYS LIBRARIAN DEBORAH JACOBS.



Blocks of floors shift toward views and light inside a diamond-patterned mesh woven by I-beams and steel tubes cloaked in a glass curtain wall. Alternating between five platforms (each devoted to a specific programmatic cluster) are four open spaces where patrons can meet, search the Web, or read.

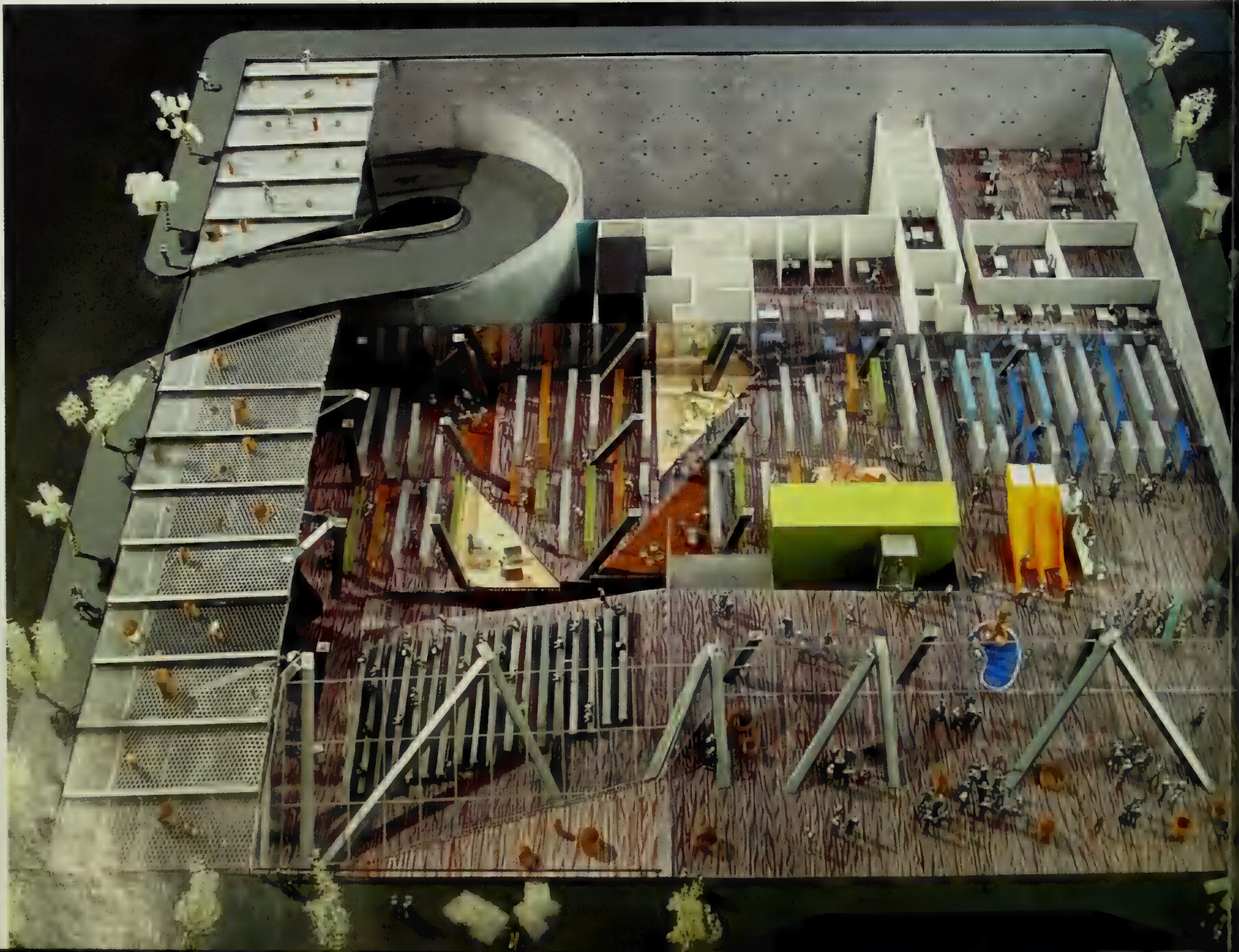


The curtain wall is set back, while the structure continues out to the property line, defining an obliquely angled entry portico.

Above the living room, on the fourth level, the assembly platform will contain technology training rooms and multipurpose meeting spaces. The next in-between space, the "mixing chamber," is on a fifth-level mezzanine, overlooking the living room below. It will be a "trading floor" for information, consolidating all the reference resources. "In traditional libraries there is a complex trajectory to find the right librarian, so we concentrated them at a central point," explains Koolhaas.

Directly above the mixing chamber is the library's most innovative feature—a square spiral of books from 0 to 999 in Dewey Decimal order over four levels. Unlike most libraries, which are forced to split collections arbitrarily on separate floors, the ramp allows a continuous flow of books and random moments of discovery. At the top landing on the ninth level, the last grand public space offers a vast main reading room with a glass roof angled down toward Puget Sound. Above it, under a freshly mowed roof of grass, are two levels of administrative offices circling a rectangular atrium that penetrates the building top to bottom with an 11-story volume of open space.

In context, the library's shifting blocks of floors allow it to be fine-



tuned to the site's light, views, and 30-foot change in grade. Awash in a sea of gray orthogonal office buildings and parking garages, the design promises a complex structure alternating between transparency and opaqueness in response to the condition of the sky. In Koolhaas' mind, though, the library's real context lies over a mile away, with Frank O. Gehry's Experience Music Project: "The library's angular facets, with the folds of Gehry's project, form a plausible bracketing of Seattle's new modernity."

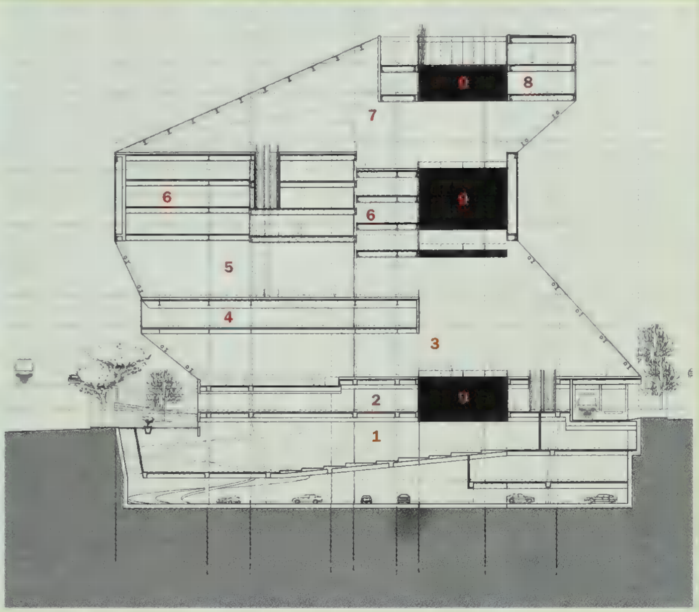
In a city infamous for its lengthy and contentious public-review process, the library has faced an unusual level of scrutiny—most of it at the invitation of politically savvy Jacobs. "We want everyone to have an opportunity to comment and be involved," she explains. In addition to informal open houses where the public circles the model and mingles with Koolhaas, OMA/LMN conducted a series of workshops with 11 library user groups and 37 different library staff groups. The library's Web site (www.spl.org) gets 30,000 hits a day, spreading the word with regularly updated information on everything from the cost estimate to the Design Commission's comments on the project. While the design did not change dramatically from the December to May public presentations, the hot points—reduced space for books, transparent floors, and a slide down into the children's library—were either modified or discussed by Koolhaas.

Local news coverage and editorials have generally been more positive than negative, with some memorable exceptions. Wrote one columnist, whose story was picked up later by the international news wire service: "I have a fantasy that Rem Koolhaas will wake up one morning and realize—oops!—I've designed the ugliest library in the world." Shrugging off his role in urban mythmaking while simultaneously pro-ecting a copy of the article two stories high behind him at a public resentation, Koolhaas quipped, "We like criticism; architecture is born in onfrontation." The negative press may provide a welcome foothold in the tmosphere of consensus between the Library Board, Design ommission, and OMA. "The Design Commission has been uncharac-eristically positive," says Sundberg, who attributes it to a combination of oolhaas' charisma and his methodical way of presenting the design that nakes it seem plausible, if not inevitable.

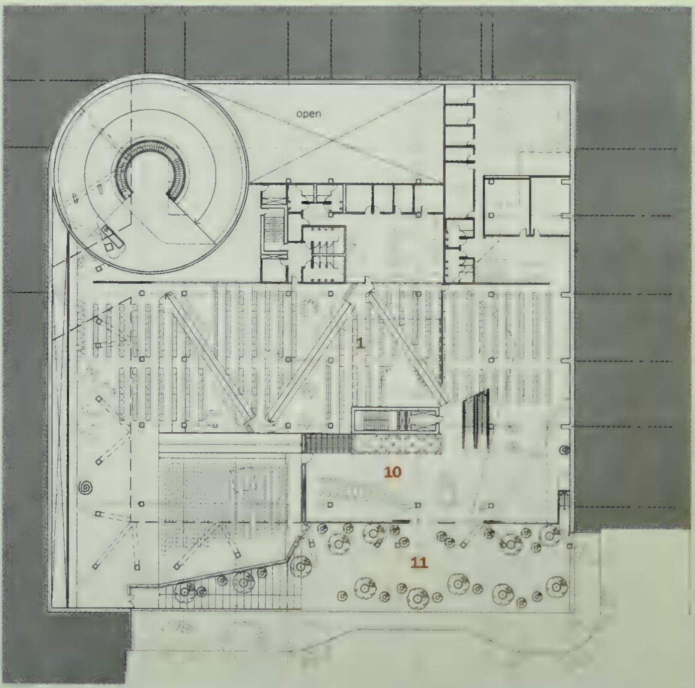
"WITH OTHER PROJECTS THERE NEVER SEEMS TO BE TIME FOR INPUT, BUT THE LIBRARY HAS A GENUINE RHYTHM OF PROPOSAL-REACTION-COUNTERPROPOSAL."

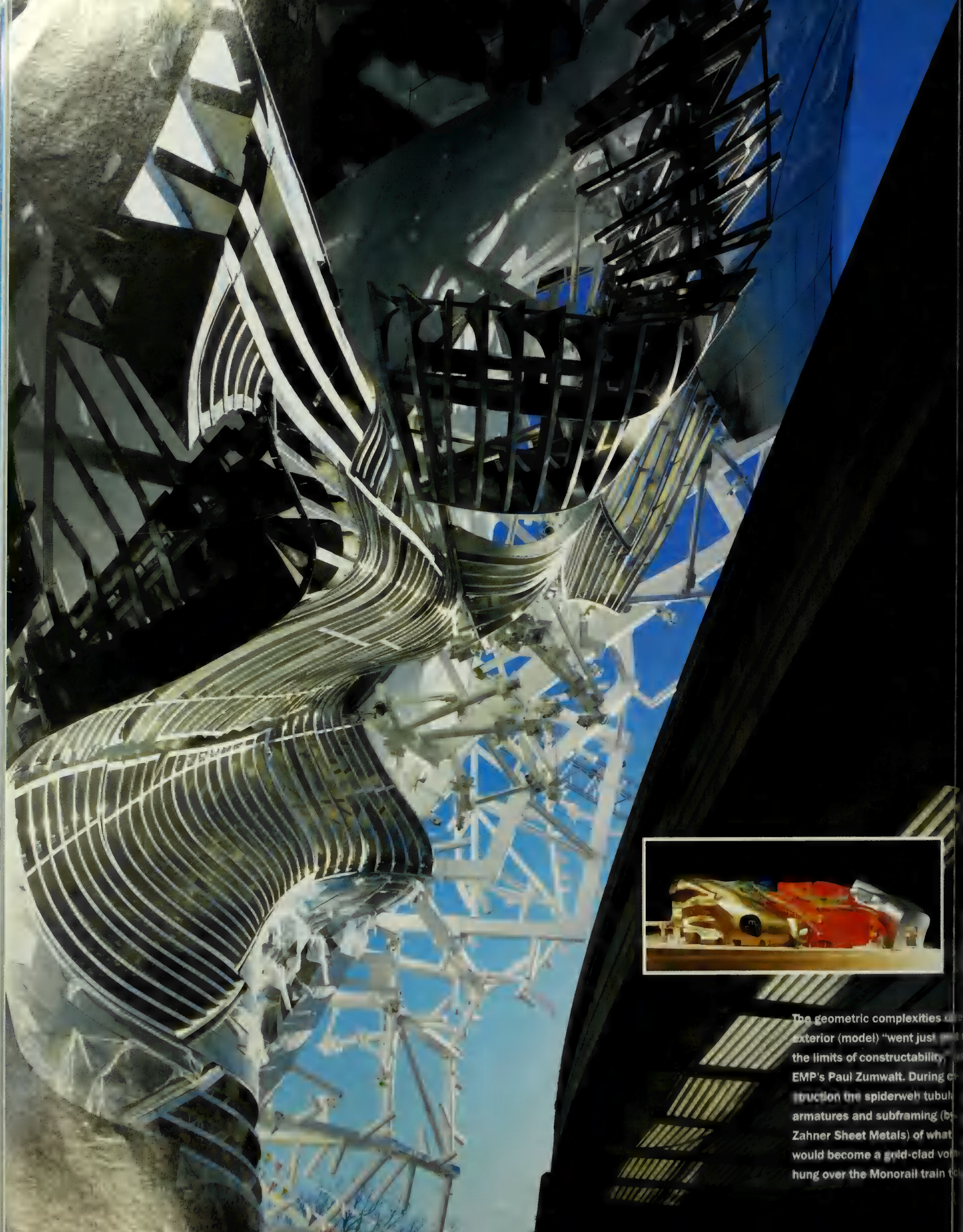
One wise decision was to involve the public early in the rocess—the concept was first presented barely six weeks into schematic esign. "With other projects there never seems to be time for input, but e library has a genuine rhythm of proposal-reaction-counterproposal," ys David Brewster, director of Seattle's Town Hall Cultural Center. By ntrast, Seattle's new City Hall, which is being designed by Peter Bohlin, ia, of Bohlin Cywinski Jackson Architects in Wilkes-Barre, has incurred l will due to a public process that appears less open to study and com-ent during design.

There still may be bumps ahead for the library if it goes over udget during construction (scheduled to begin in January and be mpleted in 2003) or proves difficult or expensive to maintain. rewster, who remembers the initially warm reception Venturi Scott rown's 1991 Seattle Art Museum received before the backlash set in, onders if the library is doomed to the same xenophobic fate. eattleites can be very agreeable at first to prevent hard feelings, but it comes out later on after the newness wears off," he forewarns. Until en, the honeymoon is not over. ■



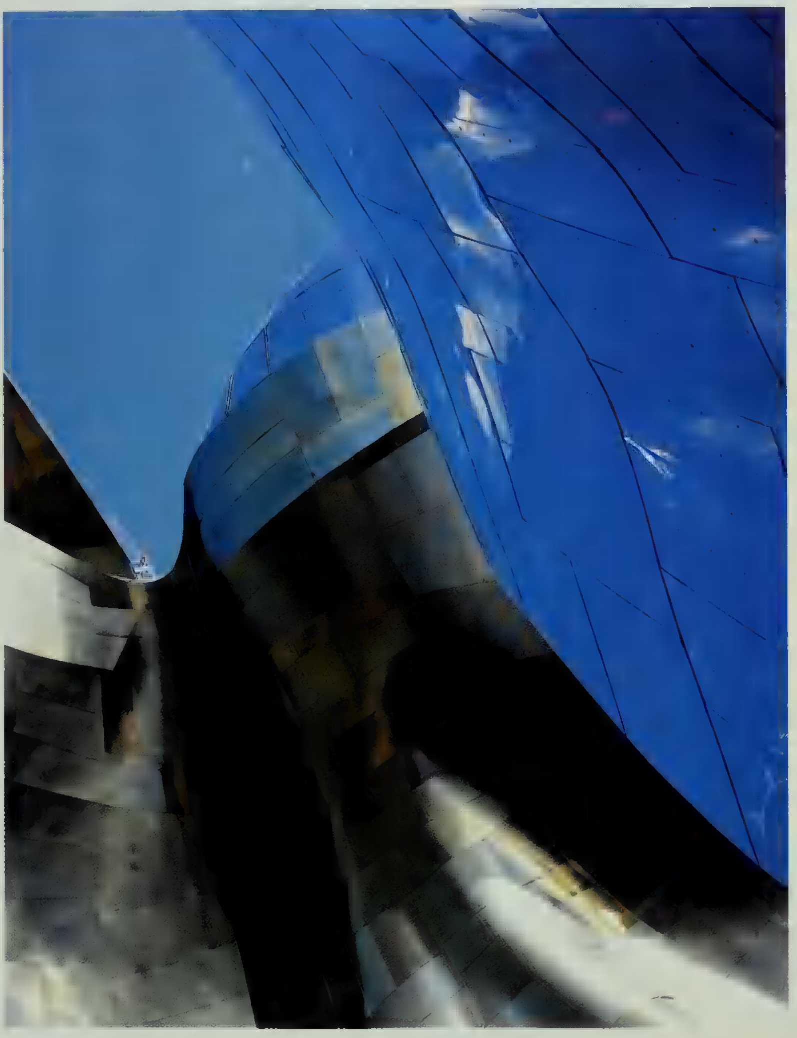
1. *Kids/multi-lingual*
2. *Staff*
3. *"Living room"*
4. *Meeting*
5. *"Mixing chamber"/ reference*
6. *Stacks*
7. *Reading room*
8. *Administration*
9. *Atrium*
10. *Lobby*
11. *Entrance plaza*





The geometric complexities o exterior (model) "went just p the limits of constructability," s EMP's Paul Zumwalt. During c struction the spiderweb tubul armatures and subframing (b Zahner Sheet Metals) of what would become a gold-clad vol hung over the Monorail train t

A marriage of money, technology, youth culture, and glitz, THE EXPERIENCE MUSIC PROJECT is Frank O. **Gehry's** paean to rock 'n' roll rebellion.



By James S. Russell, AIA

At the base of the Space Needle in Seattle, the spectacular form that rose over a 36-month construction period alternately fascinated, baffled, and repelled onlookers. First steel ribs appeared, undulating in what seemed impossibly tight curves. Later, spiky metal oranches sprouted from the structure. They looked poised to ngulf the Monorail train (like the Needle, an artifact of the ity's 1962 World's Fair) that passes through the site. As bright netal panels began to appear, sidewalk critics compared the merging rippling and curving structure with a rock musiian's inner ear or an open-heart surgery gone awry. What it all ecame is the Experience Music Project (EMP), an Internetge tribute to rock 'n' roll.

The EMP is the brainchild of Paul Allen, who leveloped an obsession with rock 'n' roll through the music f Seattle native Jimi Hendrix. Allen, with William Gates, ofounded Microsoft. Among the world's richest men, he erves on Microsoft's board while managing an eclectic array f businesses, investments, and charities. EMP was inspired s an homage to Hendrix.

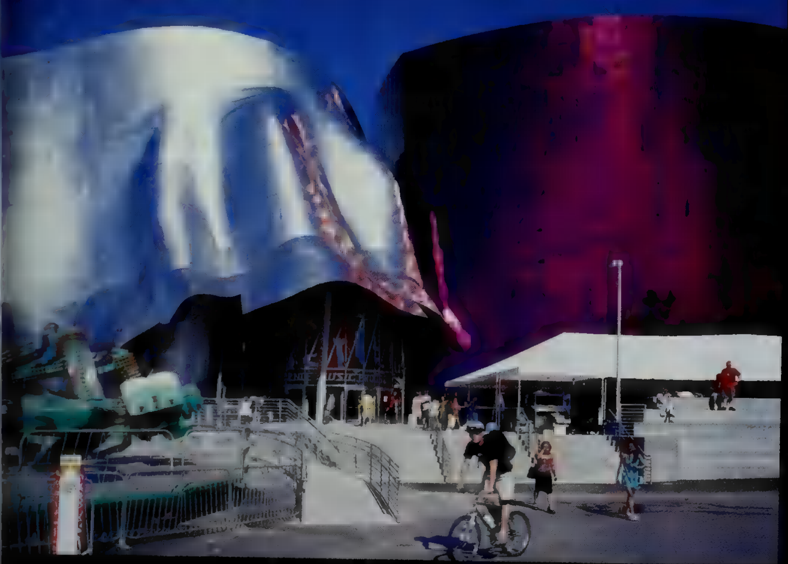
But Allen's involvement in rock 'n' roll and cuttingdge computer technology hatched a more ambitious idea. MP could use technology "to set new standards for musems," Allen says. It could help people make their own music. oday, EMP's agenda is no less than to "celebrate and explore eativity and innovation" through rock 'n' roll, so Allen unleashed extrardinary creative forces in the making of EMP. The design, construction, nd display technology went to the outer limits of what is possible to uild today.

Although the project would eventually house 25,000 square feet of hibition space, the program Allen handed Gehry was far from the useum norm. It included Sky Church, dreamed up by Hendrix before his ath, conceived as a place where anyone could gather to make and listen to usic. Allen took Hendrix's idea one step further: He asked that it be transrmable by the most advanced lighting and sound effects. Artist's Journey, hrill ride, would use flight-simulator technology with theatrical, lighting, dio, and computer-animation effects to physically take the visitor inside usic. Sound Lab would appeal to the rock-star wannabe with its comter-driven tutorials designed to help patrons improve their technique or produce their own first halting chords. Extroverts would be offered an opportunity to "perform" in a studio with lights, fake fog, and a virtual audience to scream in adulation.

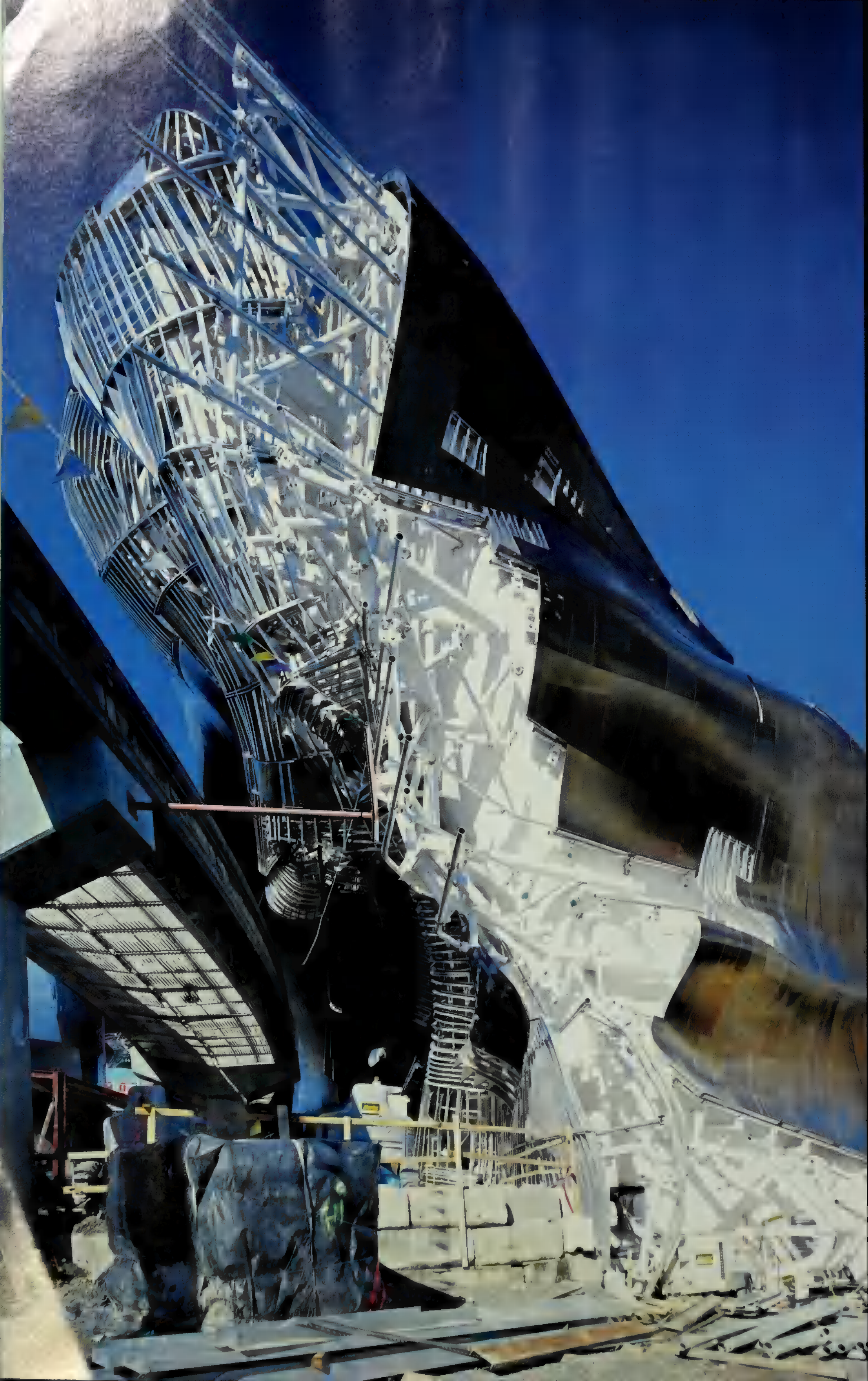
Aside from housing these disparate dreams, Gehry was charged with making a building to embody the rock 'n' roll ethos of rebellion, as self-contradictory as that sounds in an *(text continued on page 134)*

Project: *Experience Music Project, Seattle*
Architect: *Frank O. Gehry and Associates—Frank O. Gehry, James Glymph, Craig Webb, Terry Bell, George Metzger, Laurence Tighe*
Associate/Exhibit Architect: *Loschky Marquardt & Nesholm*
Engineers: *Skilling Ward Magnusson Barkshire (structural); Sparling (electrical); Jaffe Holden Scarbrough, Cerami Associates (acoustical)*
Sky Church designers: *The Floating Company*

As built, EMP is rich in architectural incident. Gehry wa
inspired by the futuristic imagery (1962 style) of thi
former World's Fair site, including the **Space Needl**
(from which the top left photo was shot) and **Monorail**. He als
took into account the colorful **Fun Forest**, an adjacent sma
amusement park. EMP's colors derive from rock 'n' roll imager
gold from a Les Paul–designed Gibson guitar, red from a Fende
Stratocaster owned by Eric Clapton, aqua from anothe
Stratocaster, purple for Jimi Hendrix's song "Purple Haze
Images clockwise from above: Sky Church, skinned in polishe
stainless steel that has been dipped in an acid bath to attain it
gold-to-purple iridescence, retains a blocklike form, thoug
eased by soft curves. Its compositional centrality is little visibl
in the final building. The **aqua-painted walls** enclosing th
Artist's Journey thrill ride roll wavelike into a rounded roof an
flutter into soft pleats where the monorail passes through.



the northern end of the building, the skirts of a **silver-toned olume** (paneled in matte stainless steel) billow outward to eveal the west entrance facing the Fun Forest. It takes on a Pillsbury Doughboy shape (turning tawny in the late day sun) as t bulges benignly over an auto dropoff. At the corner of Fifth Avenue, a squiggly keyhole opens into the store. An entrance is ust to the left. Between these compositionally calm bookends, **a splatter of bright-red metal** (enameled aluminum panels) ides atop a **matte-gold-tinted volume** (bead-blasted, gold-inted stainless steel), which rears up like a tidal wave ready to reak over the monorail tracks. (This form has already been ubbed the Madonna, for the veil-like folds of its metal-panel drapery.") "There are no two pieces alike," says William Zahner. Vaning light along the city-facing Fifth Avenue elevation picks p **clear, blue- and green-tinted glass**—giant flailing "guitar ings" supported by spidery legs that spring from the roof.



METAL PANELS

A. Zahner Company deve oped software to derive roof-panel shapes from t seemingly random patte Gehry's firm had modele n 3-D (opposite bottom). T program "flattened" eac sheet (some double curv and drove fabrication eq ment, which cut, drilled attachment holes, and attached sheets to units of about 10 feet square.

ARMATURES

Units lock flush into ea other with hidden conn tions. They clamp to a 5-inch-diameter pipe system that in turn co nect to 6- or 8-inch-diameter pedestals which are anchored to structural steel. An additional subframe of metal strips support highly articulated areas (left).

WATERPROOFING/ INSULATION

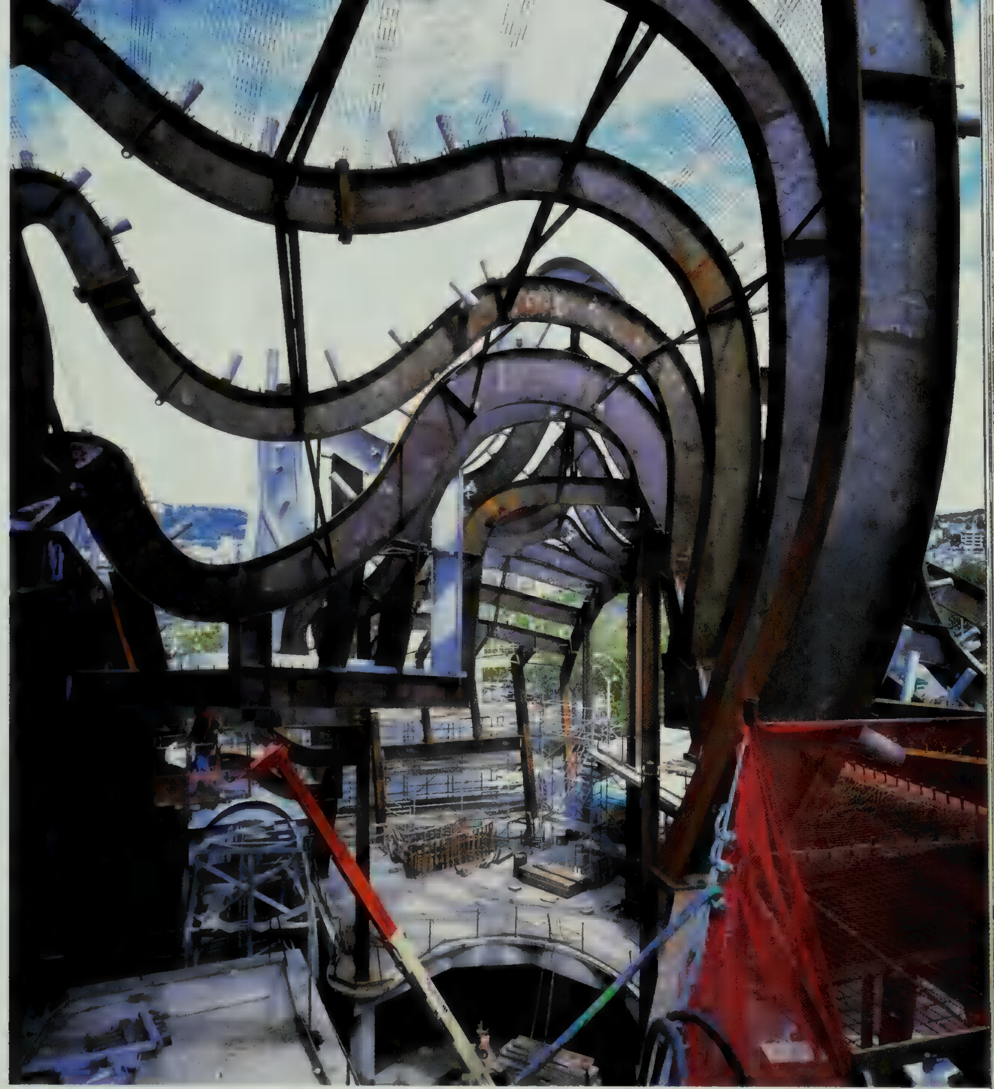
Cold-applied urethane waterproofing was spray over foamed-on insulati

SHOTCRETE

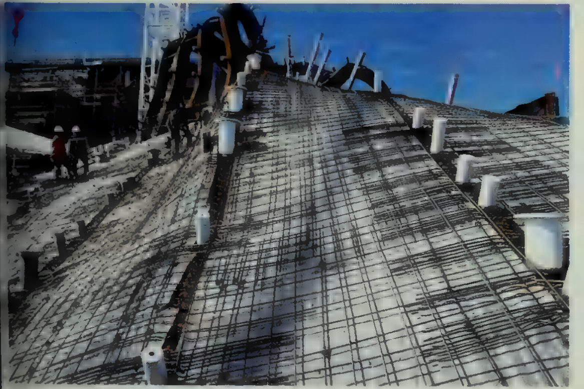
A 5-inch- thick layer of s crete was sprayed over steel reinforcement (mid opposite) and a wire me that was stretched betw structural steel ribs (top right). An additional laye fabric prevented blow-through. The shotcrete makes the structure rig and locks it together.

STEEL FRAME

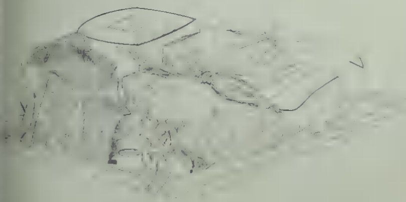
Steel fabricator Columb Wire & Iron (CWI) added computer capability to derive steel shapes fro Gehry's 3-D model and robotically cut plates fo the steel-rib webs. Flan were bent, then rolled



Paul Zumwalt, the design and construction manager for EMP, describes some key challenges. “We held the finalization of the steel design as long as possible, but finally had to freeze it. Gehry’s office continued to refine the most complex elements because they were framed onto the pipe armatures [bottom] that were attached to pedestals [below] that went through the waterproofing, insulation, and shotcrete to attach to the ribs [right]. At the most extreme point, the armatures cantilever 28 feet from the ribs [opposite]. . . . Tolerances? The shotcrete is five inches thick but could only vary by one-eighth of an inch. Frank [Gehry] says no one will ever do this again.”



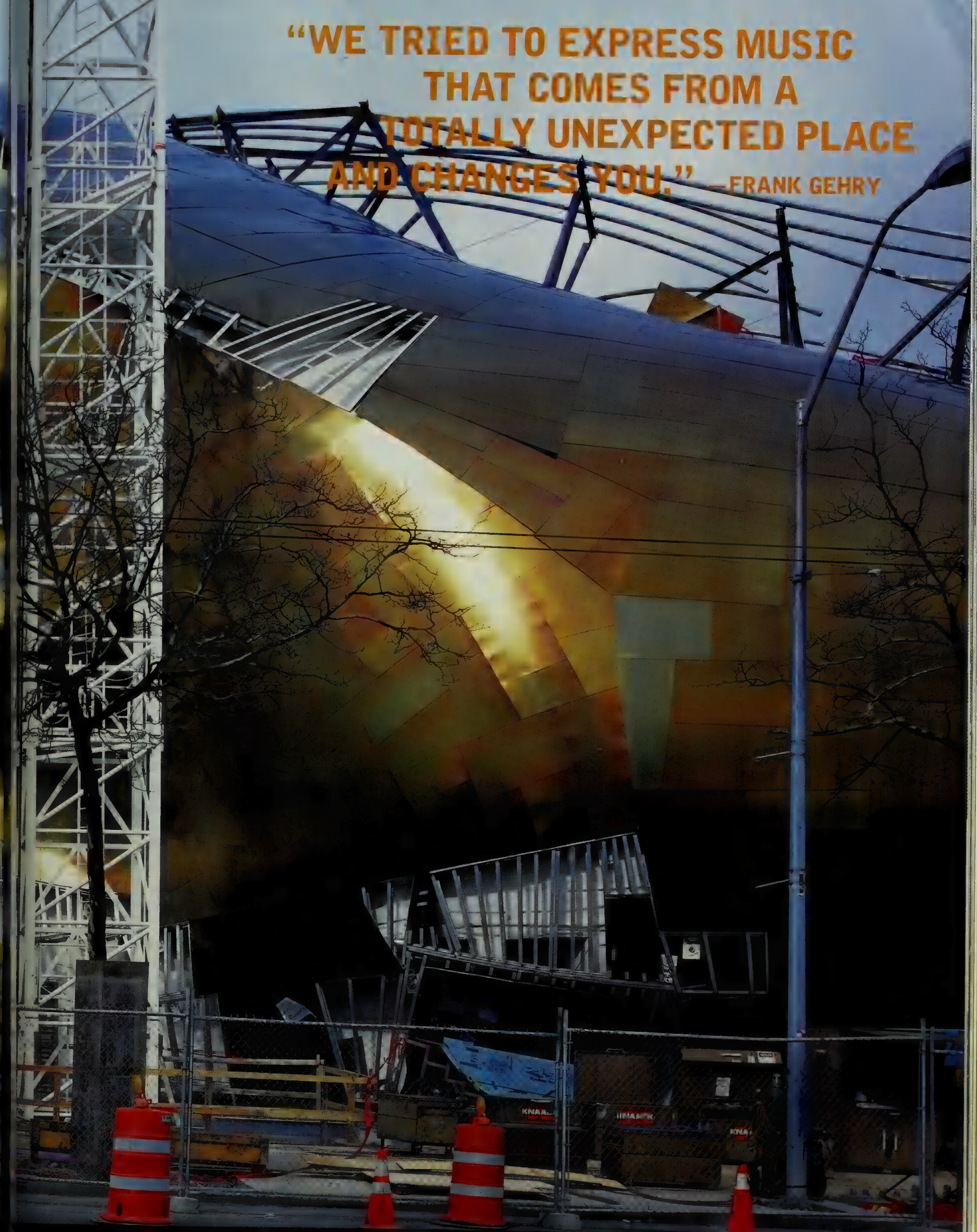
“THIS BUILDING IS BUILT TO A 100-YEAR STANDARD.”
—PAUL ZUMWALT, EMP



"IF YOU HAD TO DO IT MANUALLY, YOU WOULD NEVER BE ABLE TO BUILD THIS BUILDING."

—CRAIG WEBB, FRANK O. GEHRY & ASSOCIATES

"WE TRIED TO EXPRESS MUSIC THAT COMES FROM A TOTALLY UNEXPECTED PLACE AND CHANGES YOU." —FRANK GEHRY



Experience Music Project *continued from page 127*

institutional setting. His sculpturally driven formmaking was bound to take this project far from the buttoned-down corporate quality of I. M. Pei's Rock 'n' Roll Hall of Fame, in Cleveland [November 1995, page 82]. Gehry credits his project designers, Jim Glymph and Craig Webb, with helping him "get the music into my gut." He told a group of Seattle area architects at the project's opening that Webb and Glymph had both played in bands. "They inhaled and everything," he added. The designers played around with scavenged guitar parts, deriving the exterior's candy colors from Allen's guitar collection.

From blocks to swoops to waves

Early sketches from 1996 suggest boulderlike blobs gathered around a higher central form and fissured by a spaghetti of tendrils. Wavelike horizontal shapes recall Bilbao. Gehry tried to gather all the functions within a single structure, but some of the space had to be placed to the south of the elevated track of the monorail, which slices across about one-fourth of the site. Gehry and his associates quickly moved to develop the design in model form. Early on, they shaped a skylighted fissure, reflecting a developing internal "street" linking Fifth Avenue with the Seattle Center, the former World's Fair site, which has become a parklike precinct housing some of the city's key recreational and cultural venues. A later permutation shows a blocky, high, central volume (this would become Sky Church), with subsidiary blocks tethered to it by a membrane of skylights. Because Allen reacted favorably to the "swoopy" forms Gehry was trying out on other projects, Gehry introduced the softly, rippling forms that became the building's unique design signature.

Computers actuate auto picks on this sculpture created by the artist Trimpin.

"It is one of the first projects in which we began to explore color in a big way for its painterly effect," explains Webb. Various explorations included how the roof would warp or fissure to create the transition from one color to the next. "The building plays with different levels of reflectance and transparency," says Webb. "The gold stainless steel was glass-bead-blasted to a matte finish, but it still has some reflectivity. The purple, which is mirrored, reflects the clouds or the ground because of its curved shape. We blended the colors through the use of the glass ribbons, which superimpose blue, green, and clear glass over the

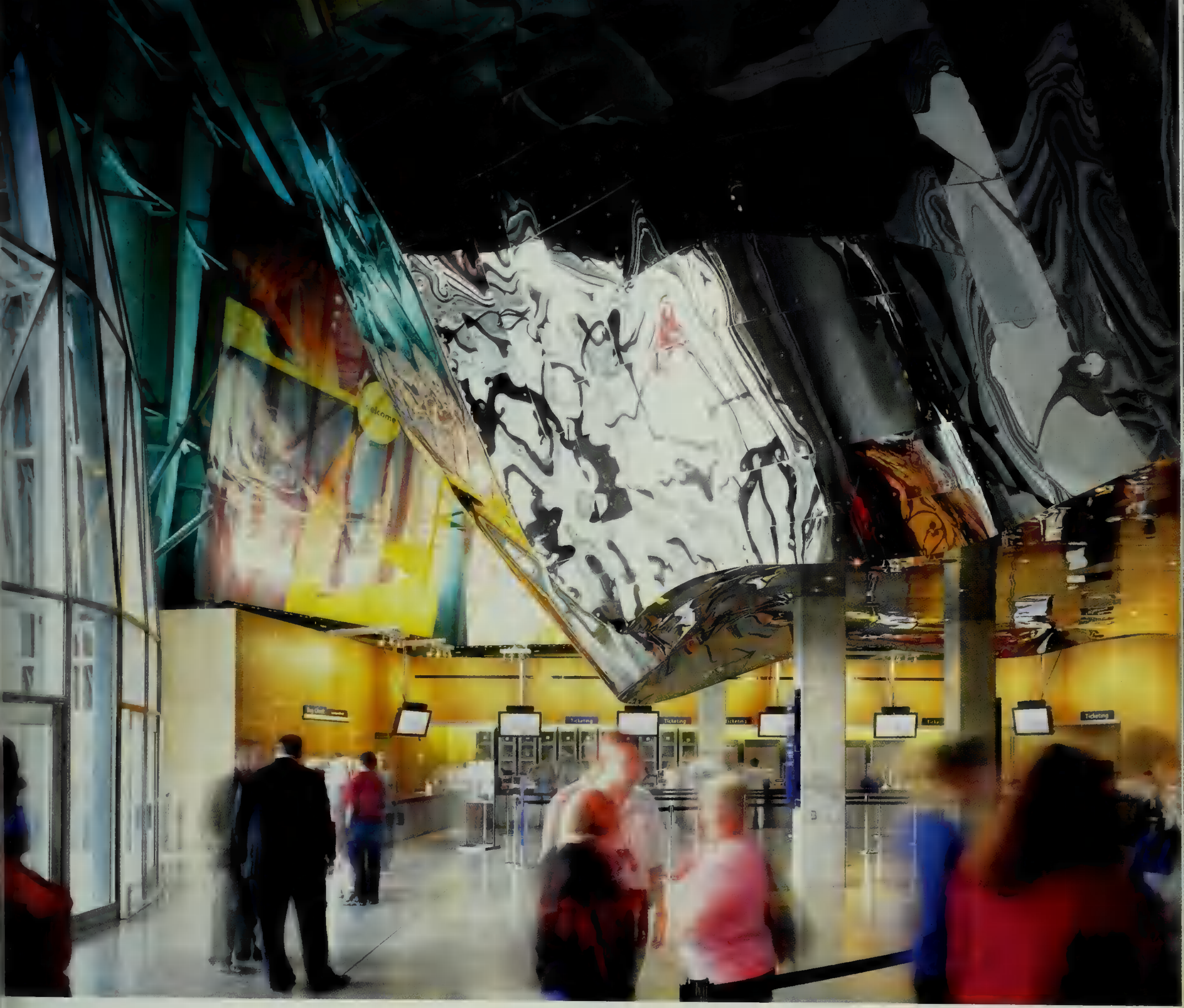
Exhibits layer sound and video clips over an eclectic range of artifacts.

Northwest Passage, an exhibit area devoted to local music traditions, slips between the fireproofed steel ribs of Gehry's structure.

opaque red and gold panels." The project, by advancing computer-aide
manufacturing processes, "made A. Zahner an entirely different company
says William Zahner, whose company fabricated the metal panels.

As built, the building is jaw-droppingly spectacular, yet bafflin
The shapes and colors don't connote the entrance, respond obviously t
the context, or tell the passerby about what goes on inside. Even the cel
brated Bilbao Guggenheim Museum slouches in a recognizabl
relationship to the Nervion River, its central, towerlike elements symbo
izing the atrium gathering space within. "It purposefully goes against th
hierarchical quality of Bilbao," explained Gehry in an interview. "It's abou
rock 'n' roll. It needed to be messier."

Gehry credits Allen and his sister Jody Patton (who is EMP's exe
utive director) for letting him take this project into uncharted artist
realms. Even Gehry admits this was risky artistically: the fast-moving an
disposable nature of popular music has always seemed to have little i
common with such a fixed form as architecture. But he cannot readi
explain how the finished forms could be so specific, yet so uninformative i
conventional terms. "I play by a very rigid set of rules," he says. "But I don
know how to explain them to you." Webb can't explain them either. "Aft
12 or 13 years together, we've developed a very abbreviated and shorthan
way of working and it's not very verbal. We may say such and such is lik
what [painter Robert] Rauschenberg was doing in that particular paintin
It evokes a visual or sculptural idea that we all know about."



A ceiling sculpture of polished stainless-steel greets visitors to the main lobby (above). Because the surface shows every flaw, it was one of the most difficult to fabricate. Skylights offer a peek-aboo view to the Space Needle. (right).

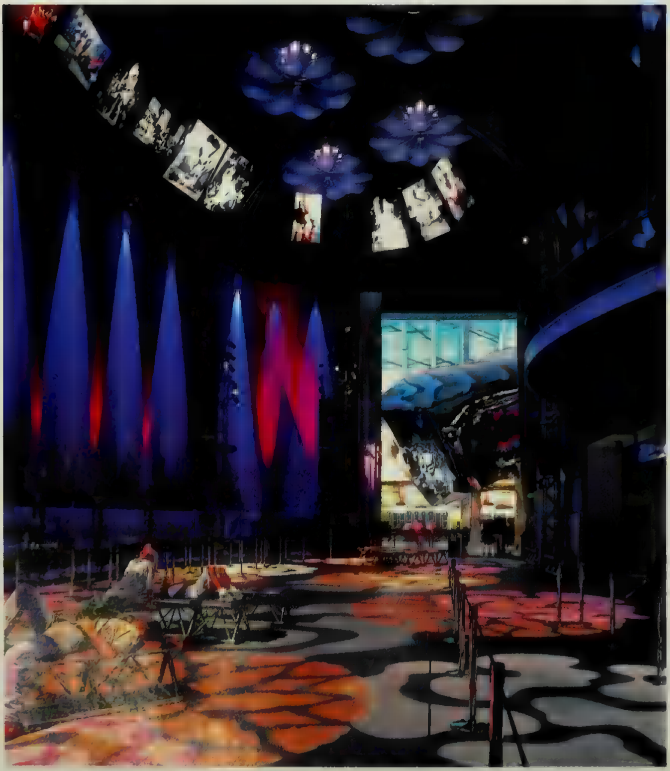
The Museum Exhibit Guide accesses sound clips tied to displays.

Interior's digital domain

Gehry only worked on the interior's public areas; most of the rest, largely designed by others, is intended to change frequently and readily. Much more the domain of specialized exhibit and attraction designers, the interior houses dozens of "interactives"—the catchall term for the technology that helps immerse the visitor in the Experience. Displays mix an eclectic range of artifacts—publicity photos, posters, 45 rpm singles, costumes, vintage radios, a whole gallery of guitars—with video and sound clips (many exactingly restored). "The subject matter is *sound*," explains Ann Frank Farrington, director of exhibits. Thus specially designed speakers offer music keyed to displays. Move a few feet to a new exhibit and you enter a new sound domain. The touch-screen computer devices that have become ubiquitous in modern museums here feature an unusually beautiful, rich, and easy-to-navigate interface. (You can slide an on-screen "magnifying glass" across lyrics scribbled by Jimi Hendrix and see them set in type, for example.) Computer-driven technology was also lavished on the most interactive attraction, Sound Lab. The Artist's Journey thrill ride not only makes use of digital animation effects (grafting Funk master James Brown's current face onto the more lithe body of an impersonator), but also of theatrical drops and lighting, orchestrated by architects Forma Design and Cunningham Group.

Does it all add up?

EMP's marriage of money ($100 million for the building, $140 million for exhibits, technology and installations), gee-whiz interactive technology, splashy architecture, youth culture, and entertainment glitz, would seem to perfectly sum up the spirit of this turn-of-the-millennium moment. And yet this undeniably spectacular project evokes powerfully mixed emotions. At once it panders to a taste for bright and glittery "edutainment," while conserving a popular-culture legacy that is very close to people's hearts. At its best it makes today's technology visceral and pleasurable in a way no desktop computer or Internet chat room ever will. At its worst, the technology seems to get in the way of the fundamental experience of the music. If James Brown's music alone can't make you "get the funk," the elaborate effects deployed by Artist's Journey, mind-boggling in cost and sophistication, aren't going to do the trick.



Unique lighting effects can be created in Sky Church by lighting the structure behind the 70-by 40-foot LED screen, the screen itself, or a scrim in front of it.

Construction of some interior elements was "paperless," with computer details going directly to fabrication.

Seattleites, in general, have not yet warmed to Gehry's architecture. To a degree, this is because it bears no relationship to th low-octane contextualism that too often enervates the local scene. Bu EMP is harder to love than other Gehry projects. The entrances, in sensible but not obvious locations, are played down. The colors imply coding (say, to interior function) that isn't intended. And yet, you can take your eyes off EMP; it offers a bone-chilling excitement that nothin virtual can do. Its rippling sensuousness may fail to convert confirme traditionalists, but those who don't insist on 100 percent legibility will b endlessly rewarded in the examination of its bumps and whorls. (Th architects revel in the numerous metaphors people invent for it— whether pejorative or not—because they indicate that the buildin fascinates people enough that they engage with it).

What seems most to dampen enthusiasm for EMP is that deploys enormous resources to an unneeded task. Only a few doubt th popular music is a creative endeavor that enriches our lives; there's n paucity of aspirants to rock 'n' roll stardom. On a video that runs in a temporary exhibit, Allen says with some hubris: "If you can inspire people creativity by giving them a taste of it, it will all be worthwhile." Strangel Allen accomplishes this purpose not so much in the Project's contents purpose, but in its execution. The very formidability of EMP's materi presence—paradoxically the product of today's ultra-abstract, ethereal technology—as well as the way it uses such other creative endeavors as lightin acoustical design, graphics (interactive and otherwise), and product desig makes a powerful advertisement for the validity of creativity per se. And cr ativity gets too little due in a national culture that has a tough time seeing as anything but a frill. ■

Sources

Roof sculpture: *Permasteelisa*

Metal skin: *A. Zahner Company*

Structural steel: *Columbia Wire and Iron*

Exhibit fabrication: *Maltbie Assoc.*

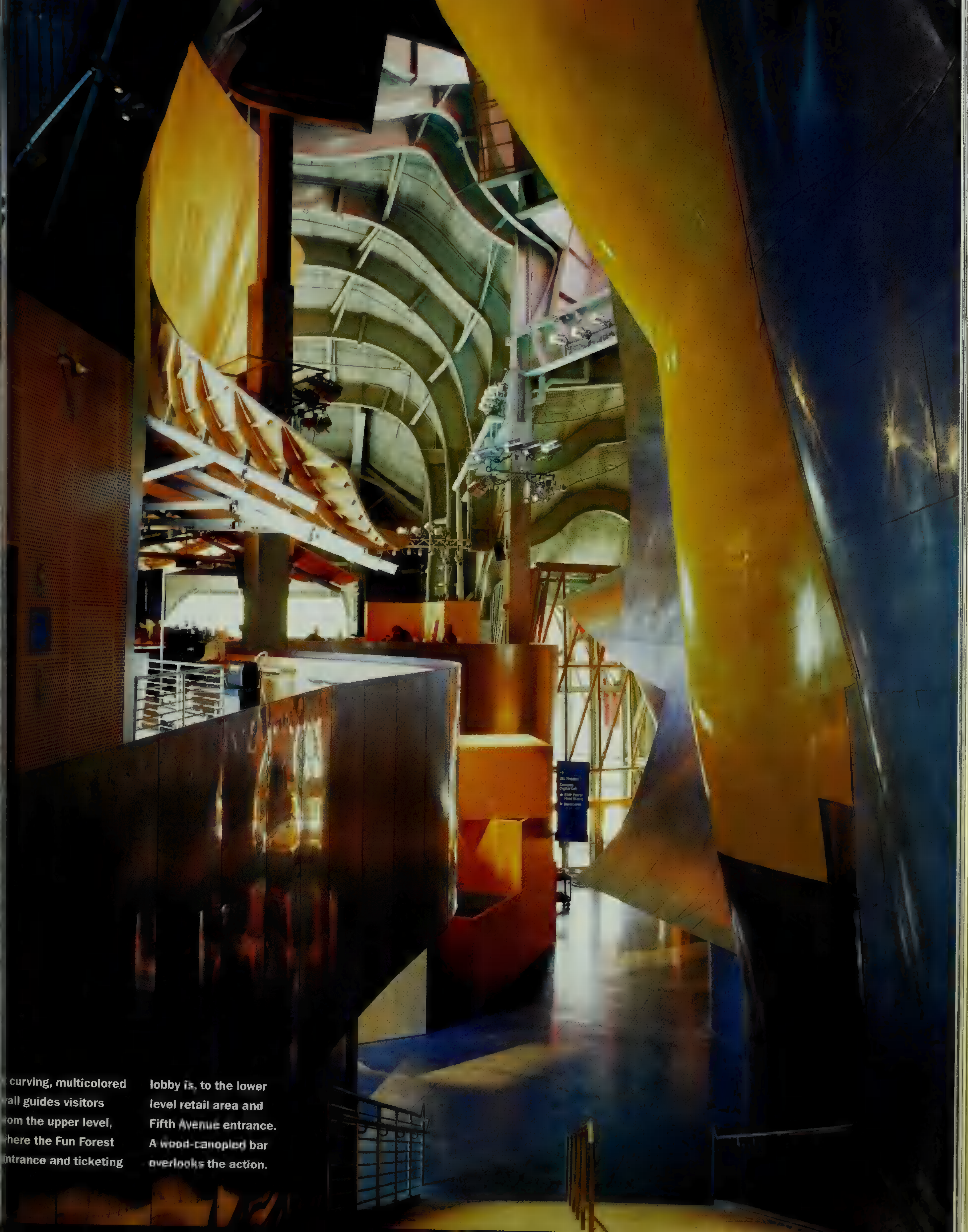
Waterproofing: *American Hyrdrotech*

Show audio/video/lighting: *Soundelux Showorks/Candela*

Raised Access Floor: *Interface*

Video: *Sony*

WWW *For more information and summary of technical innovation at EMP, go to* **Projects** *at:* **www.architecturalrecord.com**



curving, multicolored all guides visitors om the upper level, here the Fun Forest ntrance and ticketing lobby is, to the lower level retail area and Fifth Avenue entrance. A wood-canopied bar overlooks the action.

OUR CERTIFICATION EXAM CAN MAKE EIGHT WEEKS

OF BOOT CAMP SEEM LIKE A SUMMER VACATIO

Each year, every Metal Building Manufact
Association (MBMA) member must pass a th
engineering and manufacturing audit that co
a written submission and on-site inspections
independent consulting engineer.
Here's the drill. AISC auditors annually scru
order entry, purchasing, fabrication, and d
and detail documents randomly selected fr
list of 200 projects over the past six mon
In addition, they give the white glove treat
to our manufacturers' inner workings, from re
to welding quality to shipping.
MBMA members also invest millions of do
in research to advance the performance
metal buildings in extreme conditions.
No other industry group matches our mem
dedication to bringing arch
quality, flexible and depend
metal building and roofing sy
To find out more about spec
metal buildings systems or our CEU progr
call or visit our web site today.
Recruits only go through boot camp onc
Your metal buildings manufacturer has mar
orders to take the exam every year.

MBMA
METAL BUILDING MANUFACTURERS ASSOCIATION

CIRCLE 45 ON INQUIRY CARD
(216) 241-7333
www.mbma.com

PRODUCTS

Benches

Chairs

Group Seating

Rail Seating

Umbrellas

Table Tops

Table Pedestals

sh Receptacles

er Receptacles

Planters

Lighting

Signage

TYPICAL
LICATIONS

Transportation Centers

icipal Settings

rants & Cafés

ate Campuses

Universities

Health Care Facilities

ping Centers

Theme Parks

Stadiums

Set your sights on the possibilities.

We did. The result? An integrated line of site furniture and amenities durable enough to weather the rigorous demands of public environments. A line shaped by quality materials; innovative designs that complement diverse architectural styles; competitive pricing; and the convenience of single point sourcing. So aim high. Picture the possibilities. At SiteForm+, your solutions are in sight.

SiteForm+
A FORMS+SURFACES® COMPANY

DesignForm+, SiteForm+, LightForm+, Surfaces+, Hardware+ and Cornelius+ are trademarks of Forms+Surfaces Company LLC

tel 877.939.0011 fax 805.684.7757 www.forms-surfaces.com

Forms+Surfaces®

- DESIGNFORM+
- SITEFORM+
- LIGHTFORM+
- SURFACES+
- HARDWARE+
- CORNELIUS+

Mannington Commercial Carpet and Resilient Floors. 1-800-241-2262. www.mannington.com

MANNINGTO
COMMERCI

CIRCLE 46 ON INQUIRY CARD

COLLEGES AND UNIVERSITIES

Back to School

ACADEMIC BUILDING DESIGN IS INTENDED TO REINFORCE INTERACTIVE TEACHING, PROMOTE A SENSE OF COMMUNITY, AND STEM CAMPUS SPRAWL WITH REVISED MASTER PLANS.

1.

Claremont, Calif.

The Smith Campus Center at Pomona College, by Robert A.M. Stern Architects, addresses multiple uses while serving as a social hub.

2.

New Orleans

Perkins & Will designs a dormitory complex at Tulane University that combines public and private domains.

3.

Santa Monica, Calif.

Rebuilding after an earthquake, Santa Monica College funds an expansive Science Center by Anshen + Allen.

4.

Brunswick, Maine

William Rawn Associates designs new residence halls at Bowdoin College that will help to define a new quad.

By Andrea Oppenheimer Dean

As the educational role of the Internet and distance learning gain greater prominence, colleges and universities are competing to build a countervailing sense of community and institutional loyalty. To that end, new academic buildings are designed to foster face-to-face socializing in settings that invigorate the campus.

Although academia is increasingly intent on preserving the character of existing campuses when adding new buildings, the notion of context has become problematic, observes Ralph Johnson, FAIA, architect for Perkins & Will, of the Mayer Residences at Tulane. Johnson asks, "Is context just the old buildings? Do you have to be historic to be contextual? Do you ignore the ugly '70s tower?"

Creating spaces where serendipity can occur has become especially important as schools search for ways to energize teaching. Peter Stazicker, FAIA, Anshen+Allen's designer of Santa Monica College's new science building, says that students now routinely move from a large lecture to small group discussions to individual laboratory work and then back to discussion groups. This new educational mode has engendered "a new dynamic in a university building," he says.

There is a heightened recognition that much learning and creative interaction takes place informally, in unprogrammed places and through chance encounters. Now social spaces—particularly scattered, informal ones where faculty and students meet—are no longer seen as expansion-program luxuries. The watchword for new college classrooms is flexibility. Spaces must permit people and furniture to move around. Paradoxically, the information technology that permits instructors and students with laptops to project and exchange information electronically—and off-site participants to tune in—requires a fixed position. Reconciling this need for both flexibility and fixedness is key.

Student housing today must compete amenity-wise with off-campus options. Hence the music room and fully wired student rooms at Tulane. And dorms at Bowdoin encourage a rich communal life by offering suites of rooms along corridors broad enough for hanging out. Meanwhile, fully loaded campus centers have replaced traditional student unions. Such multipurpose hubs now often contain varied social vectors: a food court, recreation facilities, art gallery, theater, and postal center.

Cost remains a concern regardless of an institution's building endowment. With some classrooms in California, for example, running $200 a square foot, architects must be assiduous in understanding costs to justify design features to today's savvy college boards. Successfully layered complexity, it seems, is the final test in today's academic buildings. ■

Smith Campus Center

Pomona College, Claremont, Calif.

1

ROBERT A.M. STERN ARCHITECTS DESIGNS AN ACTIVITIES COMPLEX THAT ANCHORS A CAMPUS AND REINFORCES ITS CACHE OF HISTORIC BUILDINGS.

By Susan Doubilet

Architect: *Robert A.M. Stern Architects—Robert A.M. Stern,* FAIA, *principal architect; Graham S. Wyatt,* AIA, *project partner; Adam Anuszkiewicz, project architect; Diane Scott, project architect; John Cays, senior assistant; Kyo Bannai, Rebecca Laubach, Tonia Long, Lenore Passavanti, assistants; Damion Phillips, Christopher Powell, Cynthia Smith, interiors; Robert Ermerins, landscape associate*
Client: *Pomona College*
Consultants: *Syska & Hennessy Engineers (MEPFP), Nabih Youssef & Associates (structural), PSOMAS and Associates (civil), Carter, Romanek, Inc. (landscape), Integrated Lighting Design (lighting), Charles Salter and Associates (acoustical)*

Size: *58,000 square feet (new construction); 9,000 square feet (ballroom renovation)*
Cost: *$14.8 million*

Sources
Roofing: *U.S. Tile*
Lighting: *Luminary Tools*
Concrete floors: *L.M. Scofield Co.*
Fixed seating: *Irwin Seating Co.*
Conveyance: *Dover Elevators*

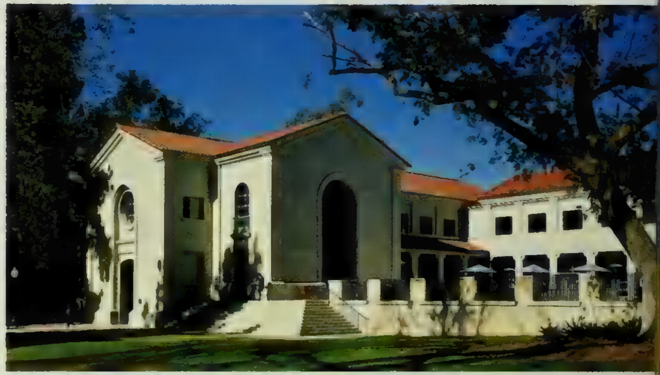
WWW *For more information on the people and products involved in this project, go to* **Projects** *at* **www.architecturalrecord.com**

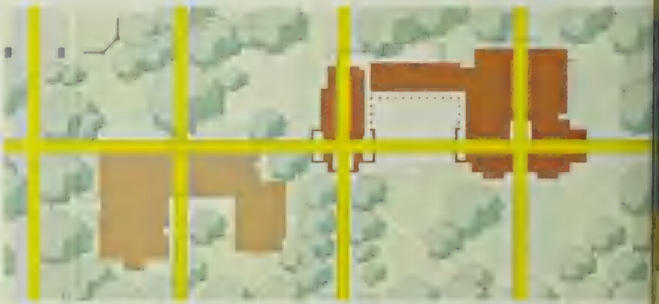
Program

In 1991, when Peter Stanley first arrived in Claremont, Calif., to assume the role of Pomona College president, he sensed a problem on the campus. As in many typical southern California communities, people retreated to the periphery after hours, leaving a void at the center. "The college has an extraordinarily diverse student population," Stanley says, "but back then, people didn't mingle except in classrooms."

To solve this problem, Stanley and the college trustees decided to demolish the existing bunkerlike student union building and construct a new campus center. To draw staff, faculty, and visitors, as well as students, the complex was programmed to meet a broad variety of functions.

Many of the college's buildings date from the early decades of the 20th century, including structures by architect Myron Hunt (the classical Bridges Hall of Music, known as Little Bridges) and by Sumner Spaulding, whose work has a Spanish cast. These structures were sited following a 1913 campus master plan prepared by Hunt. The plan, based on Beaux-Arts methods, set out a strict grid governing building axes, entrances, and pathways. It also subscribed to Thomas Jefferson's ideal of





an "academic village" with a central lawn, called the Marston Quadrangle, flanked by pavilions.

Desiring a state-of-the-art facility that would look "as if it had always been there," the college administration selected Robert A.M. Stern Architects, a firm experienced in designing academic buildings and renowned for dressing them appropriately and contextually.

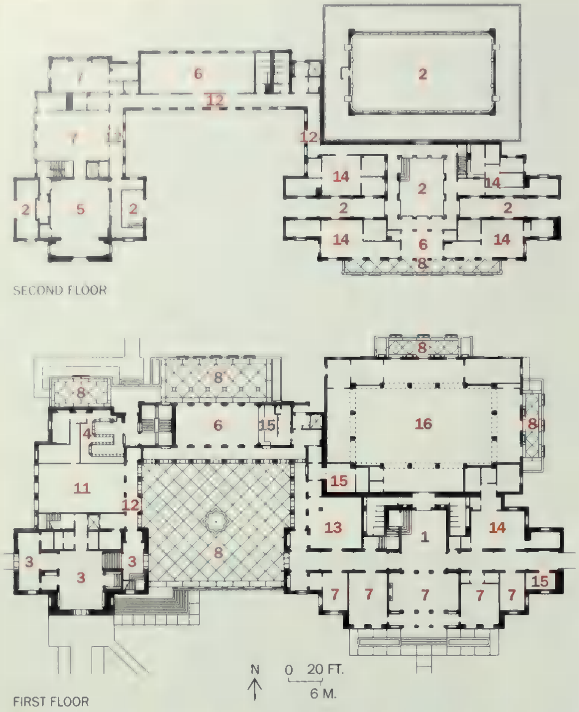
Solutions/Intentions

"I don't buy the idea that today, with the Internet, college campuses are outmoded," says Stern associate Graham Wyatt, AIA. "Now more than ever, students need to be drawn out to share social and cultural experiences."

To create a heightened sense o community, the architects designed the new multiuse facility as three tw story pavilions built around a south-facing courtyard. The western pavilion features a 200-seat theater below grade and a college store and mail center on the ground floor. The northern pavilion has both a snack bar and a table-service restaurant. And the eastern pavilion houses a large "living room" plus a two-story

Susan Doubilet's most recent book is European House Now *(Universe/Rizzoli). She also co-authored* American House Now *and* Private Architecture.

The south-facing courtyard is framed on three sides by three two-story pavilions (opposite and this page). Besides functioning as a circulation hub between wings, the courtyard serves as a social gathering spot throughout the day and evening. The architectural style of the complex—Spanish Colonial in feeling—relates well to existing campus buildings.



1. *Forum*
2. *Open to below*
3. *Lobby*
4. *Post office*
5. *Conference room*
6. *Recreation room*
7. *Meeting room*
8. *Terrace*
9. *TV lounge*
10. *Pub*
11. *Co-op*
12. *Loggia*
13. *Cafe*
14. *Offices*
15. *Kitchen*
16. *Renovated existing ballroom*

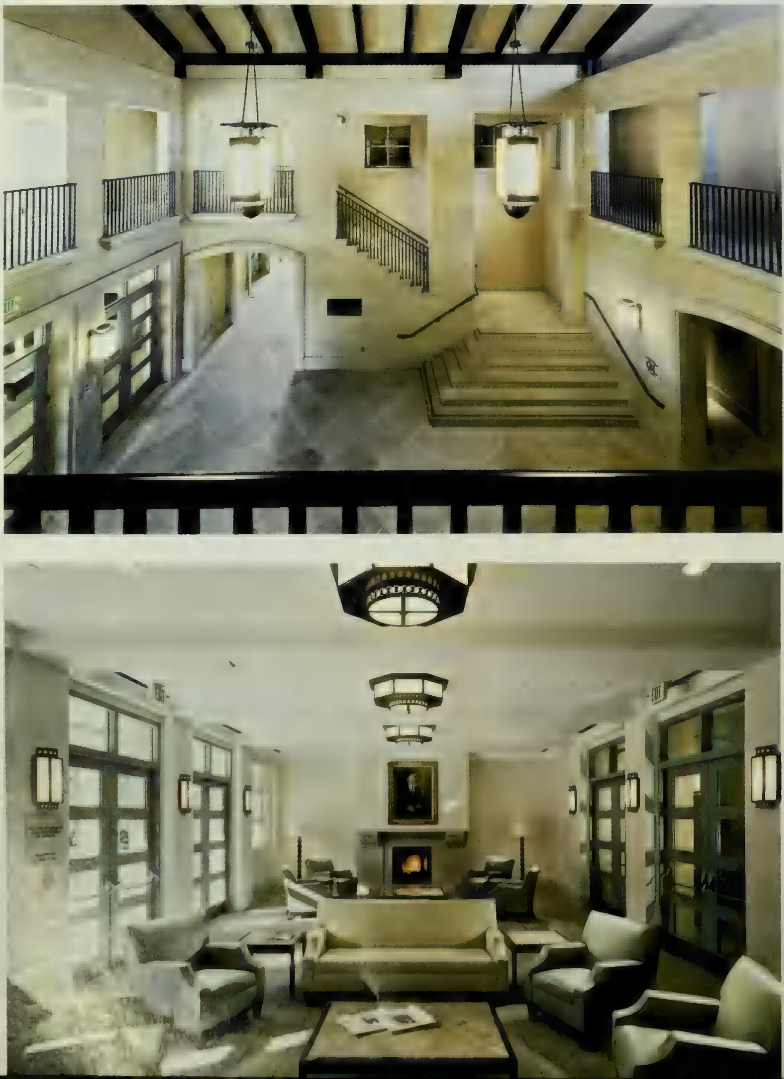
"forum" that serves as anteroom fo the existing Edmunds Ballroom, which is surrounded by the new building. On the loftlike second leve much of the space is allocated to meeting rooms and offices that ca be reconfigured as administrative needs change.

Wyatt talks with excitement about the significance of the site within the master plan. "Stanley discerned the lack of a compelling center on the campus, but he didn' quite realize the spectacular opportunity afforded by the last available site on the central quadrant. We were able to incorporate three axes into the center."

The style of the new pavilions with a spare Spanish sensibility, fits into the campus seamlessly. Roofs are pitched, with tiles produced by the same manufacturer as those cladding the existing buildings. The ground-floor colonnades present a flattened Mooris profile, while the pilasters on both floors are Doric. The two-story entrance rotunda fronting the western pavilion is designed to respond in dignity and scale to Little Bridges, which faces it across the landscaped quadrangl

The center is easily accessible with entry from any side, at a number of points. Stairs and corridors are roofed but open-air, framing views of the central courtyard, campus, and two-story "forum."

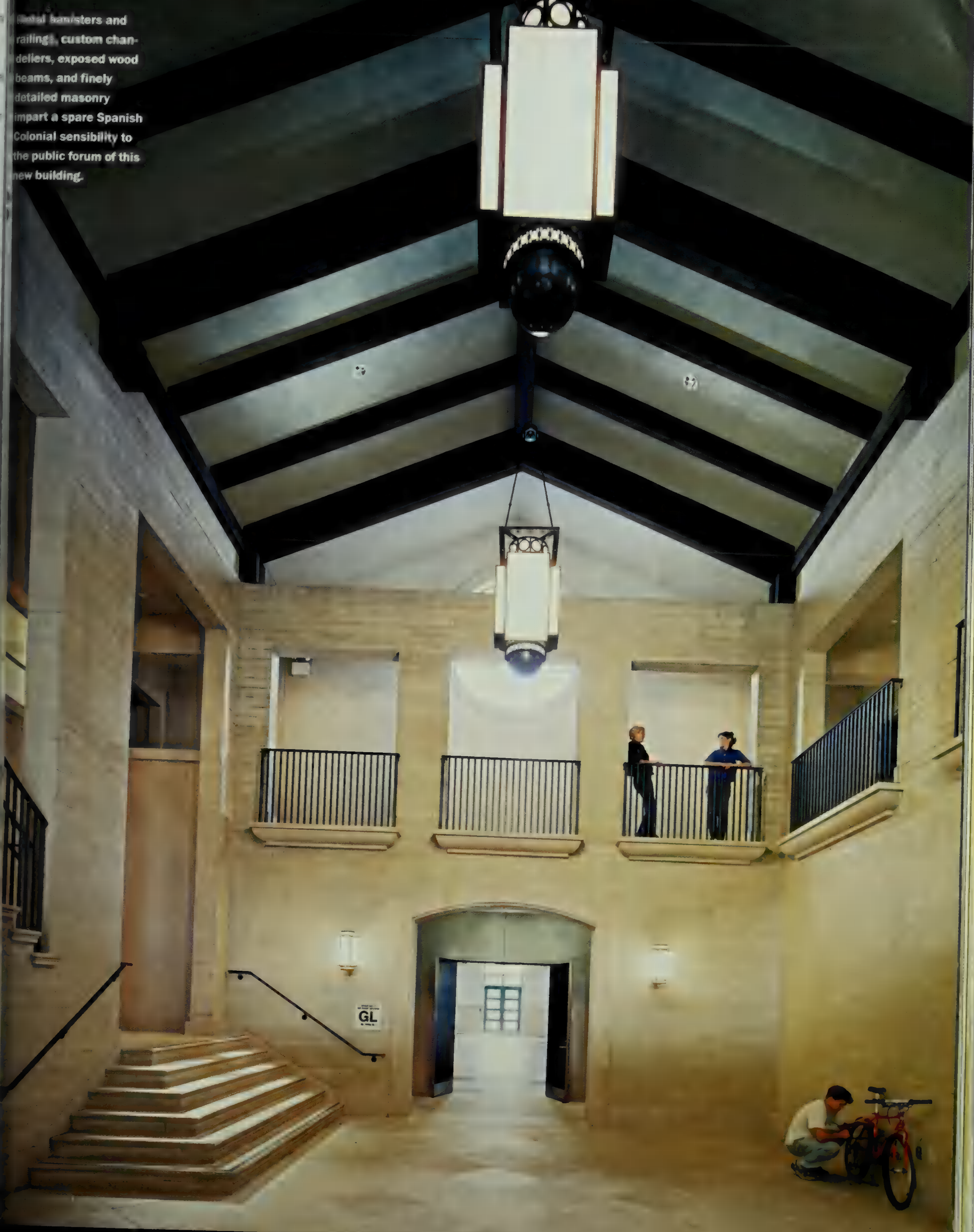
As with the college's earliest buildings, the walls of the Stern structure are board-formed poured concrete, an expensive feature the architects urged the college to incorporate. "It meets and surpasses current earthquake requirements," says Stern. "And it 'breathes,' as the roofs over the open-air circulation spaces shade the windows of the air-conditioned rooms behind them."



The double-height forum (left, top) is a public antechamber serving the existing ballroom, which was renovated by Stern. The well-appointed lounge (left, below) was designed as a student "living room," with glass-paneled doors allowing passersby a glimpse into the gathering place.

Commentary

The south-facing courtyard was the most glaring (literally and figurativel problem of the center, until Stanley added four potted trees. "The courtyard badly needed softening as well as shading," he explains. ■



Metal banisters and railings, custom chandeliers, exposed wood beams, and finely detailed masonry impart a spare Spanish Colonial sensibility to the public forum of this new building.

Mayer Residences
Tulane University, New Orleans

2

PERKINS & WILL BLENDS TRADITION AND MODERNITY IN A RESIDENCE HALL THAT OFFERS PRIVACY AND PLACES FOR SOCIALIZING.

By Deborah Snoonian, PE

Architect, interior designer: *Perkins & Will—Ralph E. Johnson, FAIA, design principal; Joseph Chronister, project manager; Nicola Casciato, project designer; Keith Kreinik, Kimberly Brown, John O' Neil, project team*
Associate architects: *Lyons & Hudson Architects*
Client: *Tulane University*
Consultants: *Perkins & Will (structural, mechanical, electrical, plumbing engineer); Morphy Makofsky (civic engineering); Joe Karr & Associates (landscape architect); Hanbury Evans Newill Vlattas & Co. (programming); Linbeck Construction (general contractor)*
Size: *95,000 square feet*
Cost: *Not available*

Sources
Metal: *Pac-Clad*
Aluminum: *U.S. Aluminum Corp.*
Glass: *Colonial Glass*
Suspension grid: *Donn DX*
Wood doors: *Weyerhauser*
Cabinetry, millwork: *Gulf Coast Millwork*
Acoustical ceilings: *Omni Auratone*
Resilient flooring: *Tarkett*
Elevators: *Schindler Elevator Corp.*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at* **www.architecturalrecord.com**

Program

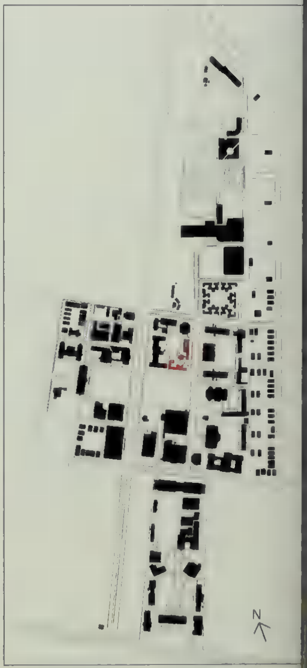
Directly across from the student center on Tulane University's busiest street, McAlister Drive, the Mayer Residences have become a place to live for students who prefer privacy without forsaking a lively social atmosphere. Two neatly streamlined, four-story buildings have replaced a lifeless, three-story dormitory block from the 1950s. Although the nearest buildings are 1950s International Style concrete and stucco structures, those sited in the nearby Newcomb Quadrangle are of Georgian brick dating from 1910. Among the challenges faced by Ralph Johnson, FAIA, Perkins & Will design director, was mediating between the two styles.

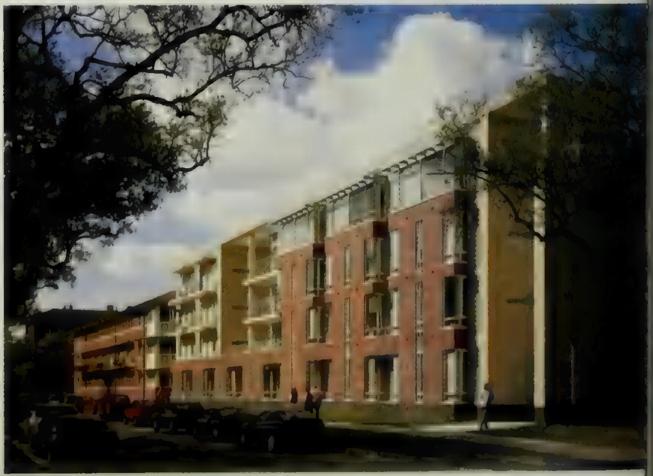
The university's campus-planning steering committee also charged the architect to be "responsive to the particularities of our climate and place," recalls committee member John P. Klingman, Tulane professor of architecture. The university wanted the new buildings to meld interior and outside spaces via balconies, patios, and terraces, in keeping with the New Orleans aesthetic. Other goals were to ensure both student privacy and sociability, and to integrate study areas with service spaces such as laundry rooms and housekeeping supply areas.

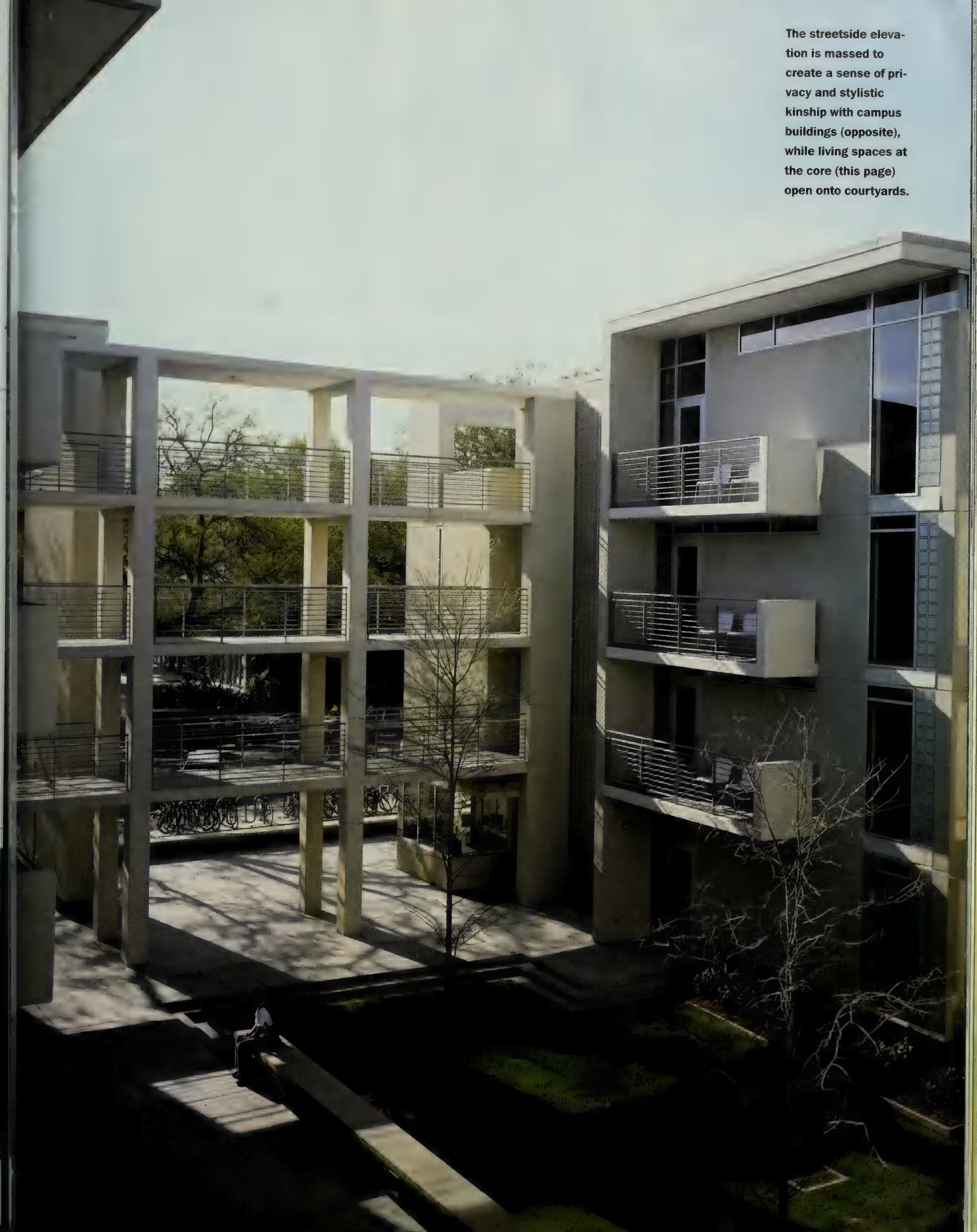
Deborah Snoonian is an engineer and freelance writer based in Washington, D.C.

Solutions/Intentions

The residences' clean facades of brick and stucco are intended to unite Tulane's traditional and modern styles by respecting both and offending neither. "We didn't want to simply design nostalgic architecture," says Johnson. "We aimed to create a modernist transformation of traditional architecture." By articulating the facades, the architect broke down the buildings' mass while endowing them with enough presence to anchor the corner, continue the quadrangle's strong definition, and stand up to the large outdoor space. A street-level cyberlounge and specialty-food shop, open to neighborhood residents as well as students,



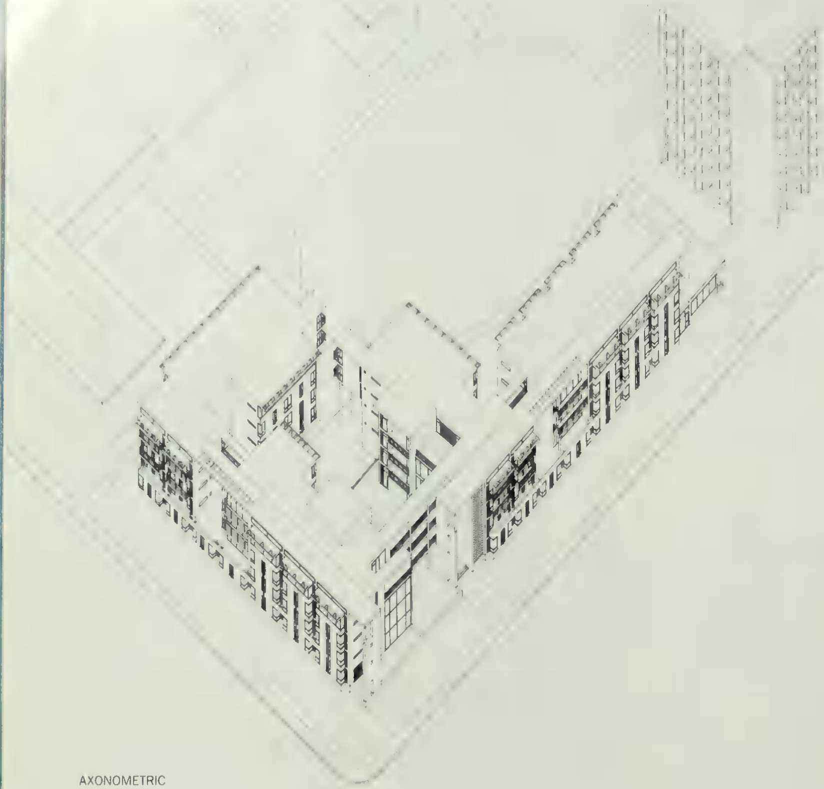




The streetside elevation is massed to create a sense of privacy and stylistic kinship with campus buildings (opposite), while living spaces at the core (this page) open onto courtyards.

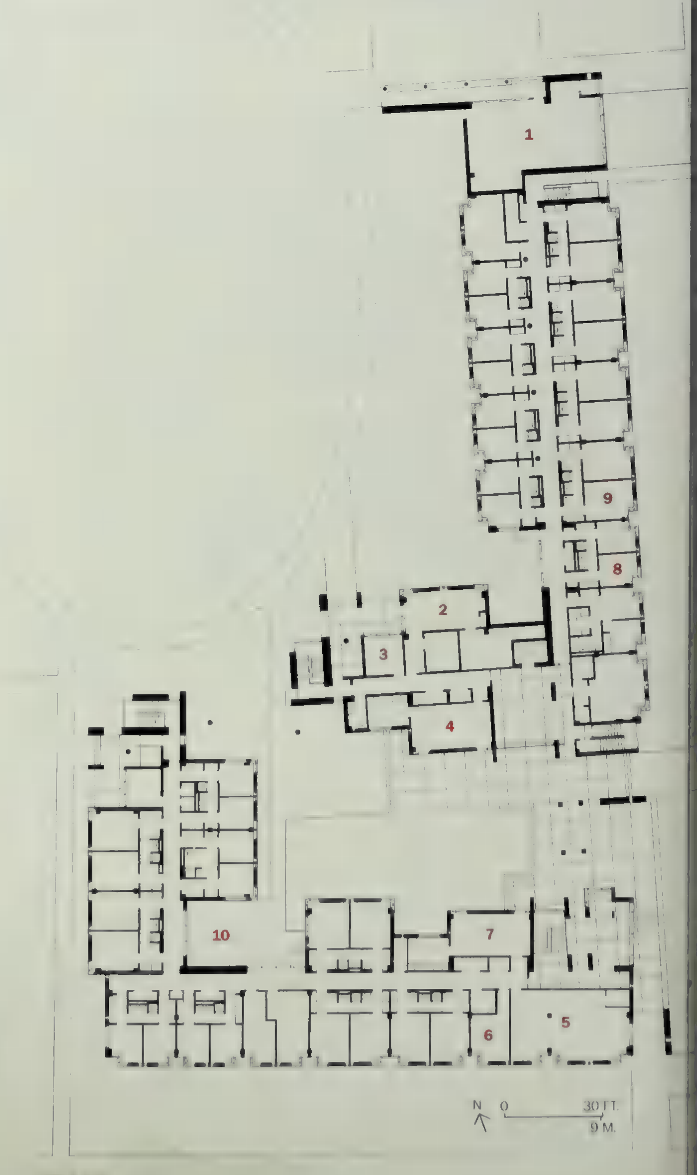
The Mayer Residences capitalize on the corner site by wrapping an L-shaped plan around an oval court, which serves as an extension to the main quadrangle (this page). A cafe at street level engages the community.

Inspired by traditional elements of the city's rich vernacular architecture, the complex incorporates balconies, overhangs, terraces, and sweeping lawns—erasing the boundaries between in- and outdoor living (opposite).



AXONOMETRIC

1. *Cafe*
2. *Laundry/vending*
3. *Study*
4. *Recreation lounge*
5. *Entry lounge*
6. *Music room*
7. *Lounge/kitchenette*
8. *Typical single room*
9. *Typical double room*
10. *Courtyard*



FIRST FLOOR

Window walls with clerestories and glass blocks flood bedrooms and study areas with daylight (left and below). These elements also vary the architectural geometry, an improvement on the "stacked box" housing the structure replaced.

invites foot traffic from McAlister Drive and activates the corner, an opportunity missed by the old dormitory design.

The project incorporates traditional aspects of New Orleans single-family home design: a courtyard, walkways, and many terraces and patios create a strong link between outdoors and interiors. Cut-out areas through the second, third, and fourth floors allow breezes to ventilate the buildings and enter the courtyard, "which is really important in New Orleans' hot, humid climate," says Klingman. Weather permitting, the balconies, terraces, and courtyard bustle with activity.

Single- and double-occupancy rooms are arranged in suites, each with its own laundry room, kitchen, vending machines, study area, and lounge; no more than two rooms share a bathroom. While ensuring the new housing's 248 residents ample privacy, the architects focused on creating a variety of public spaces: Outdoor pedestrian bridges on each floor connect the two buildings, corridors are kept short, outdoor walkways connect suites, and multiple balconies and terraces—plus an entry courtyard—allow students to mingle outdoors. "The design gets students out of their rooms and into the common areas," agrees Robert Stickney, Tulane project manager during construction.

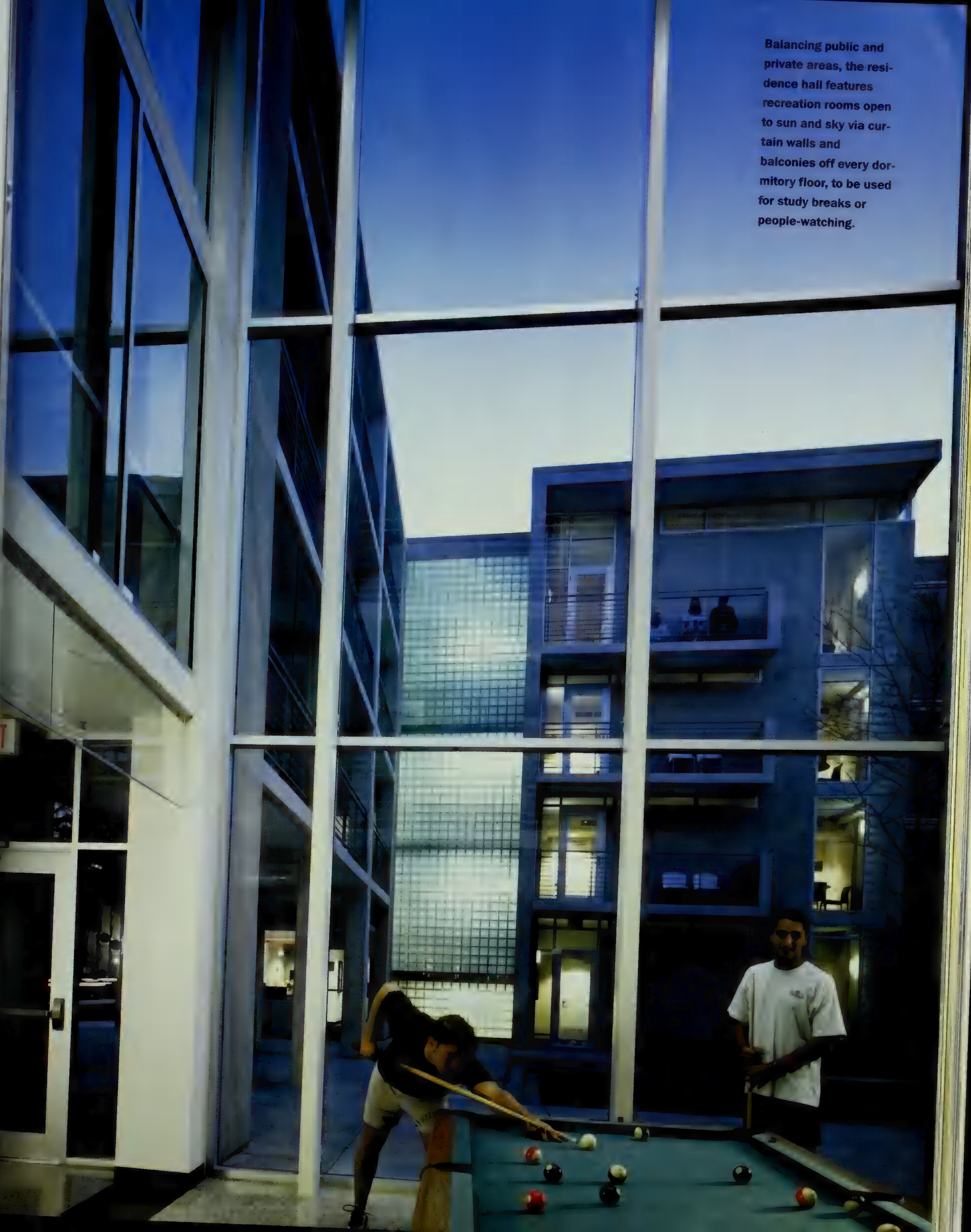
Throughout the residences there is ample natural light. During the day, students can work at tables alongside large windows in study areas. Even humble laundry rooms have plate-glass walls, giving residents courtyard views as they fluff and fold and study.

Commentary

The layering of the multi-leveled te races, the strongly expressed windows, and the contrast betwee brick and stucco elements give the Mayer Residences a striking visual resonance. The project's success comes in part from a design that looks to the future while borrowing the best elements of the past, hon oring the local context.

Viewed up close, however, por tions of the building lack a certain refinement in their workmanship. Th design details of the windows and facades, though well intentioned, were challenging to execute tidily during construction. As a result, water intrusion around the windows has become an occasional nuisanc during periods of heavy rainfall, prompting repairs after the comple opened. As with any project built in New Orleans, keeping out moisture and encouraging air circulation are tantamount importance. On the plu side, the project's siting and though ful placement of galleries and balconies allow air to flow through and around the buildings during ev the most humid summer weather.

Tulane students traditionally love to live off campus, as New Orleans, of course, offers housing options rich in character. The popu larity of the Mayer Residences illustrates the payoffs reaped by designing housing that engages th neighborhood and provides studen with a sense of community withou compromising space for solitude. This dormitory is not just a place t live—but also a place that lives. ■



Balancing public and private areas, the residence hall features recreation rooms open to sun and sky via curtain walls and balconies off every dormitory floor, to be used for study breaks or people-watching.

Science Center

Santa Monica College, Calif.

3

ANSHEN+ALLEN LA BUILDS A SCIENCE CENTER THAT UNIFIES A CAMPUS AND PROVIDES A GATHERING PLACE FOR A COMMUTING STUDENT BODY.

By Lisa Findley

Architect: *Anshen+ Allen LA—Sarah Dennison, AIA, principal-in-charge; Dennis McFadden, AIA, design principal; Andrew Labov, AIA, project designer; Kelly Locke, project architect; Michael Fernandez, Frank Mihelcic, Richard Wilcox, design team; Eduardo Martinez, construction administrator*
Client: *Santa Monica College*
Consultants: *Katharine Spitz Associates (landscape); Ove Arup & Partners (lighting, audiovisual, acoustics, telecommunications, SMEP engineering); Earl Walls Associates (laboratory planning)*

Size: *99,200 gross square feet*
Cost: *$24 million (including central plant)*

Sources
Steel frame: *Maya Steel*
Curtain wall, entry doors, skylights: *U.S. Aluminum*
Doors: *Security Metal Products, Buell*
Windows: *AMS Metals, Security Metal Products*
Roofing: *Centria, GAF*
Cement plaster: *Synergy*
Composite aluminum panels: *Reynobond*
Hardware: *Folger Adams*
Ceilings: *U.S. Gypsum*
Conveyance: *Dover*

WWW *For more information on the people and products involved in the project, go to* **Projects** *at* **www.architecturalrecord.com**

Program

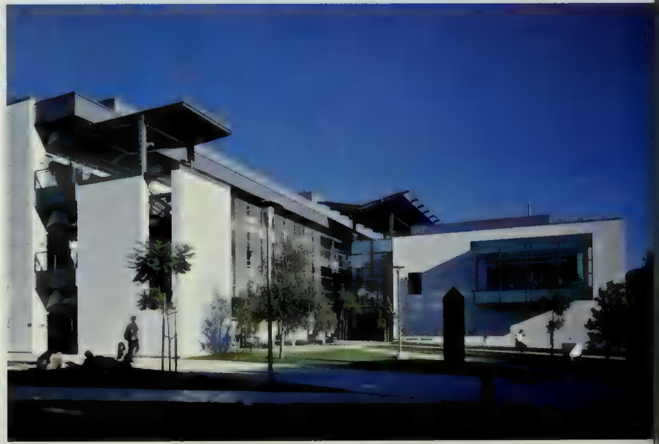
When the 1994 Northridge earthquake struck, Anshen+Allen, Los Angeles, was finishing design for an addition to the Science Center at Santa Monica College. The existing building was badly damaged and because FEMA funds became available, the 27,000-student community college asked the architects to design an entirely new building. The $24 million, $250-per-square-foot new building, while occupying the same site, would be nearly 50 percent larger than the damaged structure. The challenge was to gracefully insert 99,000 square feet of computer and science labs, lecture halls, classrooms, and faculty offices along one edge of a campus quadrangle.

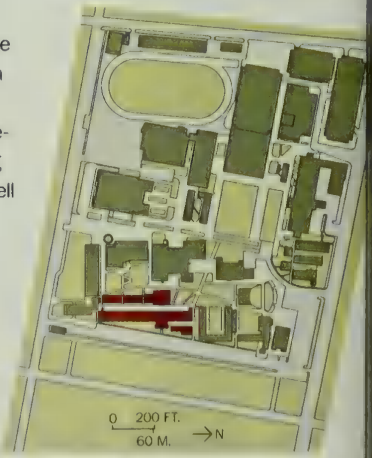
Solutions/Intentions

To avoid creating an overscaled monster with a warren of dark double-loaded corridors, Anshen+Allen LA divided the building into two long, narrow parallel bars with a courtyard in between. The bar that follows the edge of the campus quad is a sympathetically scaled two stories with ground-floor classrooms and second-story faculty offices. The building is naturally ventilated with operable windows and heat chimneys that circulate air through the rooms. At the end of the classroom/office bar, beyond the corner of the quad, are air-conditioned lecture halls and a computer lab.

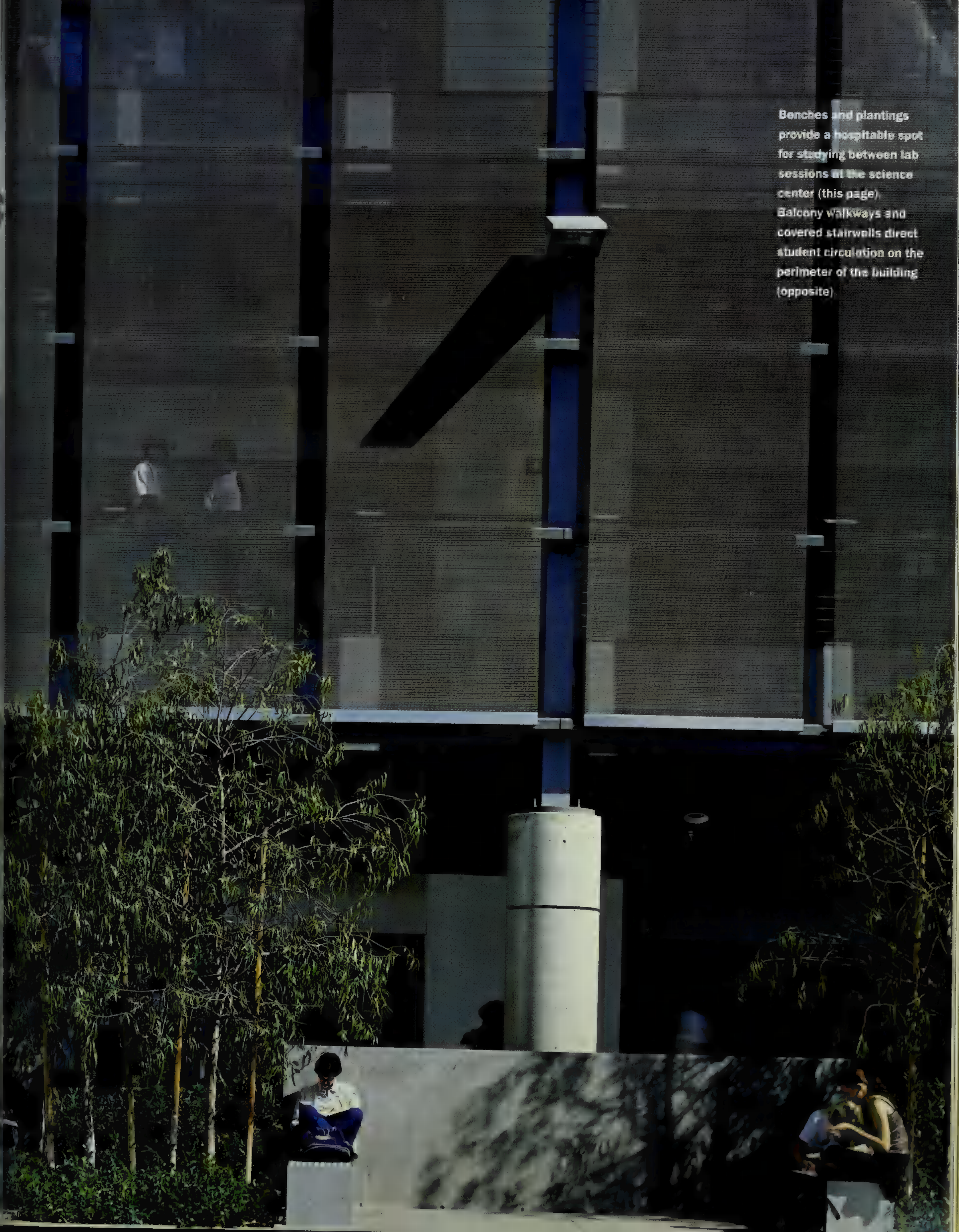
The three-story, state-of-the-art laboratory building runs along the back of the site, stretching well past the shared courtyard. The benign climate of Santa Monica allowed the architects to place entries to the science labs and preparation rooms along single-loaded balcony walkways that overlook the courtyard.

The 200-foot-long courtyard is a pleasant space incorporating plantings and benches. It operates as an informal lobby for the building by visually or physically connecting to almost all the facilities of the building. Access to the courtyard from the quad side is through a series of identical breezeways cut through

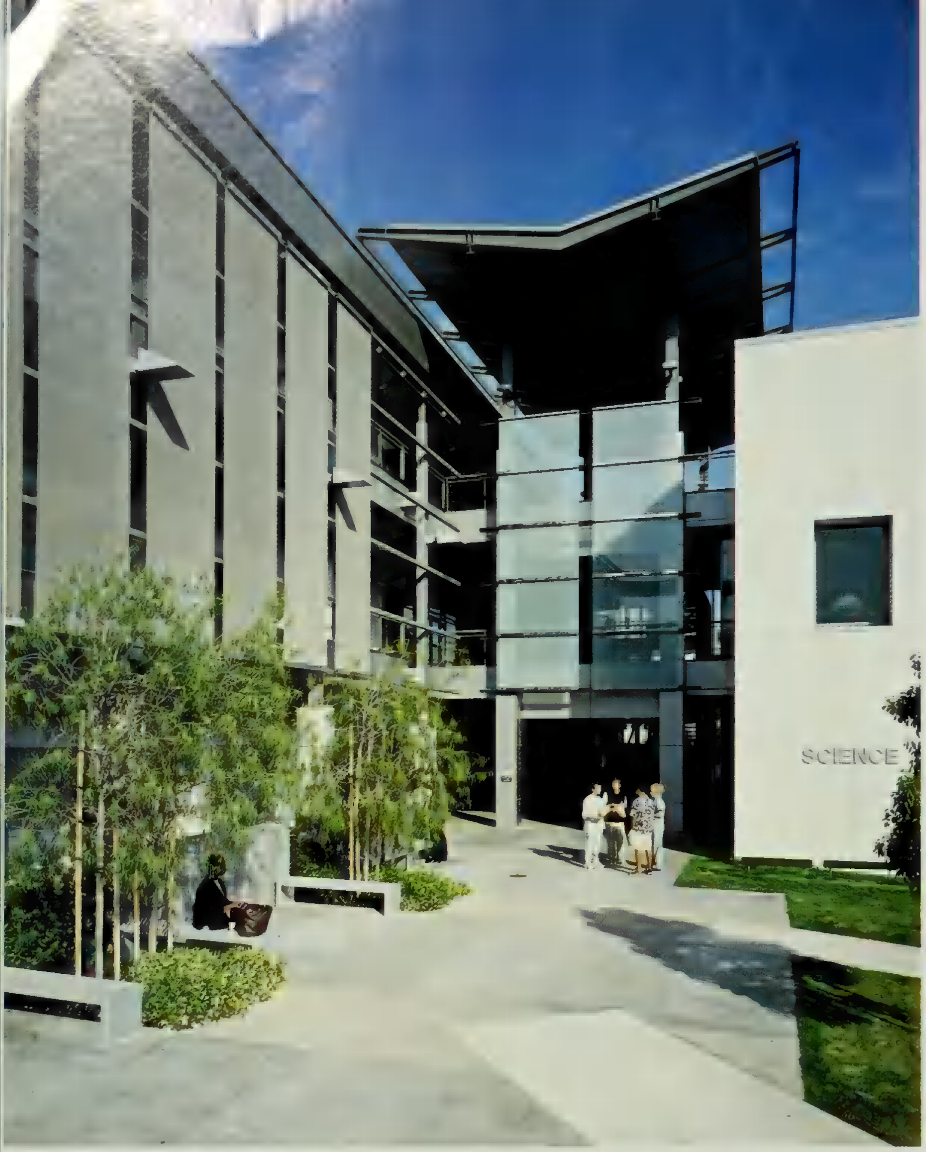




Lisa Findley, AIA, an Oakland-based architect and writer, teaches at the California College of Arts and Crafts.



Benches and plantings provide a hospitable spot for studying between lab sessions at the science center (this page). Balcony walkways and covered stairwells direct student circulation on the perimeter of the building (opposite).

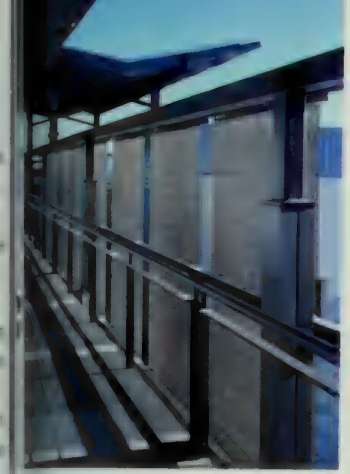


the classroom building. The courtyard is enclosed by other campus buildings on one end and open on the other, where it slides past the end of the classroom bar and faces a small lawn and sculpture garden. Stairways empty directly into each end of the courtyard, reinforcing the notion that the space serves as a community meeting place.

Creating a sense of community was indeed a priority, given the incoherence of the rest of campus and the transient nature of the commuting student population. The campus feels more like a typical California high school packed with undifferentiated classroom buildings than an American college campus, where buildings often have a distinct character and presence. To underscore the notion of the Center as a gathering place, the architects placed a large metal overhang, forming a kind of shaded porch, between the building edge and the open quad. The courtyard of the Science Center achieves a strong sense of identity by suggesting a community within a community.

Commentary

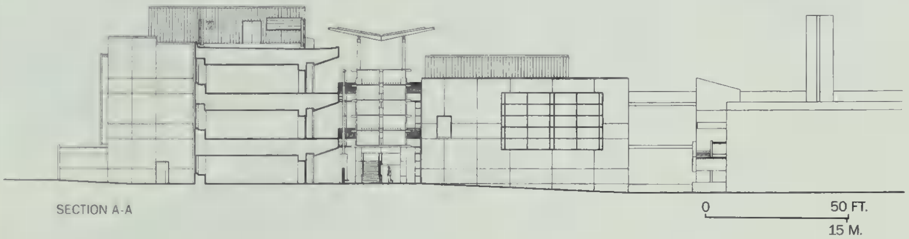
Entry into the Science Center is always casual. There is no place at the complex that might be called a front door. The breezeways that allow entry from the quad into the courtyard and classrooms, while brightly painted, are faceless corridors. The building's lack of hierarchy fits the



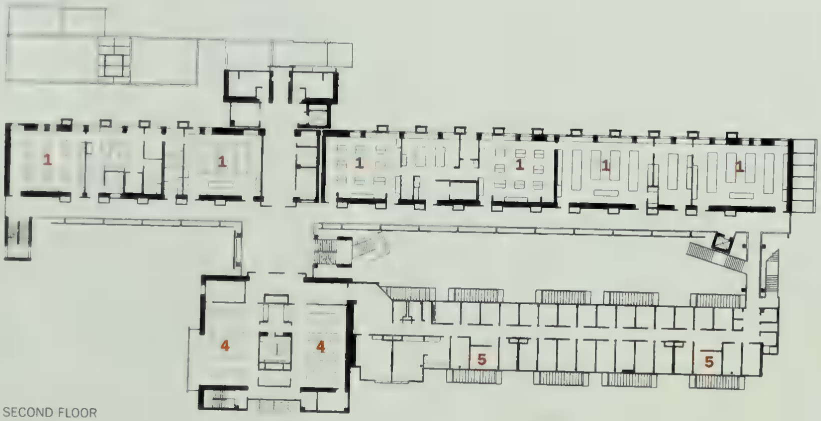
casual feeling of the campus but tends to scatter the students, compromising some of the potential for community. All of the public spaces are long and linear, inviting movement, yet there are few secluded spaces for studying between classes or talking quietly with a friend.

Each of the two long edges of the courtyard has a different character. Along the classroom/office oar, metal sash windows dominate the wall. To reduce the potential for ioise from the courtyard, the lesigners placed plantings adjacent to the building edge, oreventing activity beside the windows. By contrast, the laboratory edge of the courtyard has no windows, but welcomes circulation ight up to the building's edge. The valkway balconies have carefully letailed handrails and regularly paced screens of stainless-steel nesh that establish a vertical hythm to break up the endless iorizontal run. This mesh also composes an edge of irregularly spaced oor openings. Finally, shifting light onditions on the screens change ieir reflectivity, shadow patterns, nd transparency.

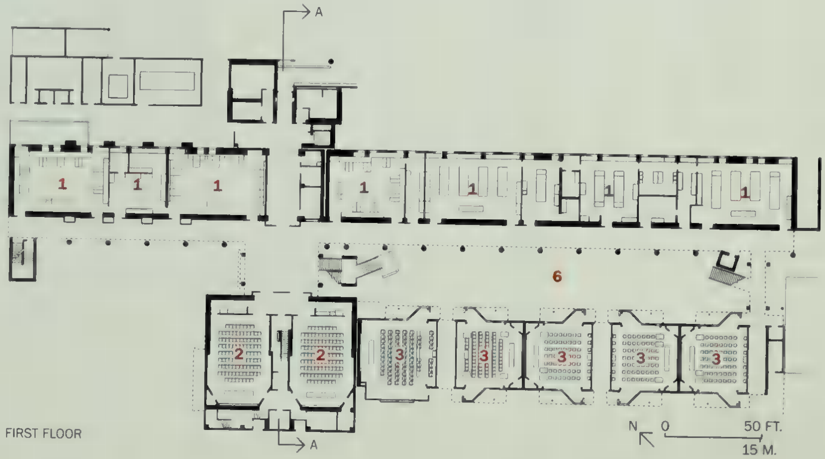
The monumental braced steel ame of the building is only noticeable as diagonal steel members cross an occasional window pening; it serves as a subtle eminder that the new structure is eismically safer than its predecessor. This assurance adds to the atisfaction and delight of faculty nd students with this thoughtful, ell-detailed project. ■



SECTION A-A



SECOND FLOOR



FIRST FLOOR

Steel mesh screens along handrails (above) and steel roof overhangs (opposite, top) are among the custom-finished details. The structure is 50 percent larger than the one it replaced, with updated labs (opposite, below).

1. *Laboratory*
2. *Lecture hall*
3. *Classroom*
4. *Computer lab*
5. *Faculty office*
6. *Courtyard of the sciences*

Howard and Stowe Halls

Bowdoin College, Brunswick, Maine

4

WILLIAM RAWN ASSOCIATES DESIGNS TWO DORMITORIES THAT SERVE AS A LINK BETWEEN HALLOWED HALLS AND SITES FOR FUTURE GROWTH.

By Elizabeth Arcuri

Architect: *William Rawn Associates—William Rawn III, FAIA, principal; Clifford Gayley, AIA, associate principal/project architect; Victoria Beach, John Upton, Lindsay Crawford, Randy Whinnery, Sean Wang, project team*
Client: *Bowdoin College*
Consultants: *Carol R. Johnson Associates (landscape)*
Engineers: *LeMessurier Consultants (structural); TMP Consulting Engineers (mechanical)*

Size: *40,000 gross square feet*
Cost: *$4 million (construction)*

Sources
Exterior cladding: *Morin Brick*
Concrete: *Northern Design Precast*
Load-bearing walls, precast plank floors: *Strescon Ltd.*
Roofing: *Maine Roofing Services*
Windows: *Traco*
Ceilings: *USG*
Wood flooring: *Kaswell & Co.*
Conveyance: *Otis Elevator Company*

WWW *For more information on the people and products involved in this project, go to* **Projects** *at* **www.architecturalrecord.com**

Program

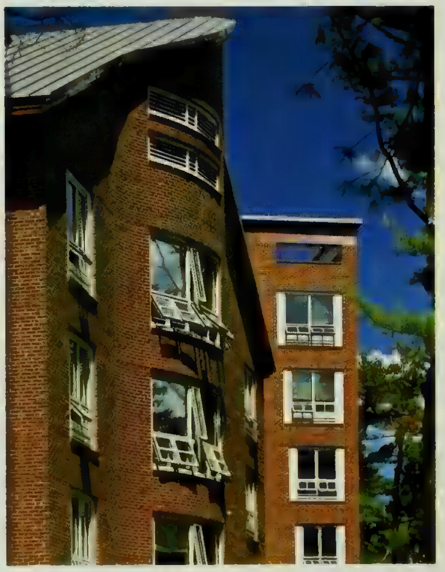
Bowdoin College's wooded campus occupies an enviable location in coastal Brunswick, Maine. The 200-acre campus evolved in two main stages: Colonial-to-late-Victorian-style buildings rose from 1820 to 1900 around a quad. The second burst of construction, from the 1920s through the '60s, produced buildings that were stylistically diverse but nearly all small-scale, clad in red brick, and low in profile. William Rawn, FAIA, designer of the campus' first new residence halls in three decades, calls the historic campus "elegantly integrated."

Solutions/Intentions

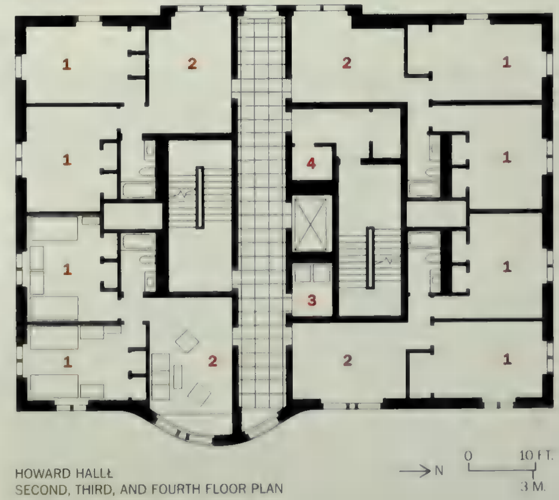
In shaping the new $5 million dormitory complex, Rawn sought to fit the project into the texture of the campus while creating an initial link to a proposed second quad. A crucial design requirement was to encourage student interaction.

Between the completion of the residential Coles Tower in 1965 and Stowe and Howard Halls in 1996, life at Bowdoin was in flux. In response to student requests for more varied housing options, the college built off-campus apartments and converted single-family houses for student use. Bowdoin increased its enrollment by moving from a men's to a coed institution, fine-tuning its curriculum, and recruiting

Elizabeth Arcuri is a facilities programmer and lives in New York City.



Two side-by-side dorm buildings, with distinctive yet complementar facades (left), create a massing that defines one border of a new quad. Entries at each corner of Stowe Hall (opposite) facilitate student access while orienting the structure toward all directions within the campus.



HOWARD HALL
SECOND, THIRD, AND FOURTH FLOOR PLAN

1. *Bedroom*
2. *Living room*
3. *Laundry*
4. *Housekeeping*

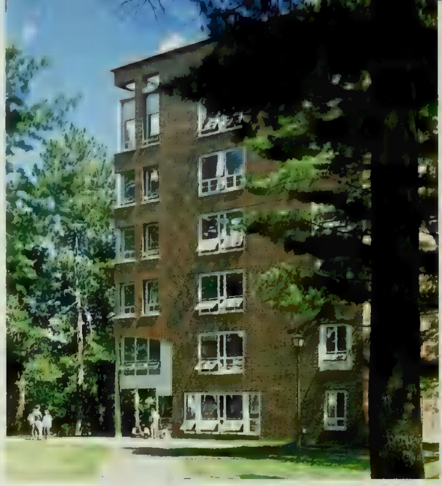
[illegible] By the early 1990s, the student body had nearly doubled, to [illegible] (and is projected to reach 1,550 by decade's end), sharpening the need for additional housing. "It was a pivotal time to initiate a movement to bring students back to campus," says Bowdoin president Robert Edwards, who supported the idea of developing a residence hall with an emphasis on community.

The project guidelines required the new dormitory site to serve as a link between the historic quad and the athletic fields, and to define the first edge of what will become a new south quad. Practical concerns dictated a building site on the eastern edge of the existing quad. To further define the border of the new quad, the architects chose to construct two dorm structures with distinct forms to underscore their different roles.

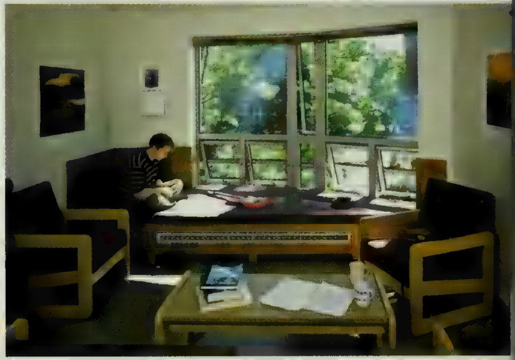
The four-story Howard Hall is a long, gable-ended structure. A vertical "ripple" effect, created by ground-to-gable bays, presents an expressive facade to pedestrians. Alternatively, the cubic form of six-story Stowe Hall is rotated to act as a beacon addressing many directions simultaneously. The visual focus of an entry at each corner, together with large windows that allow for natural ventilation and daylight, gives the building eight faces: four diagonal and four orthogonal.

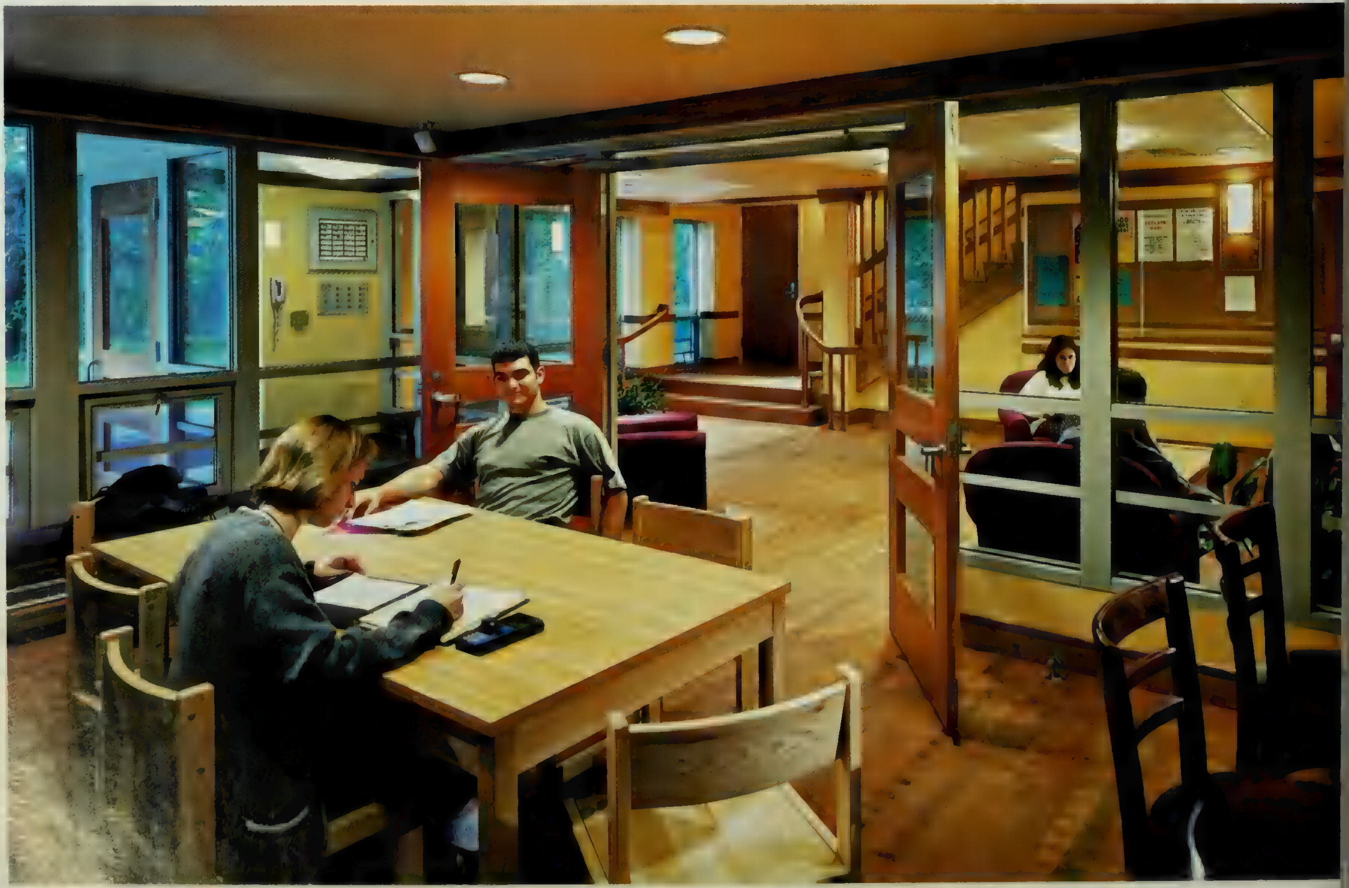
Commentary

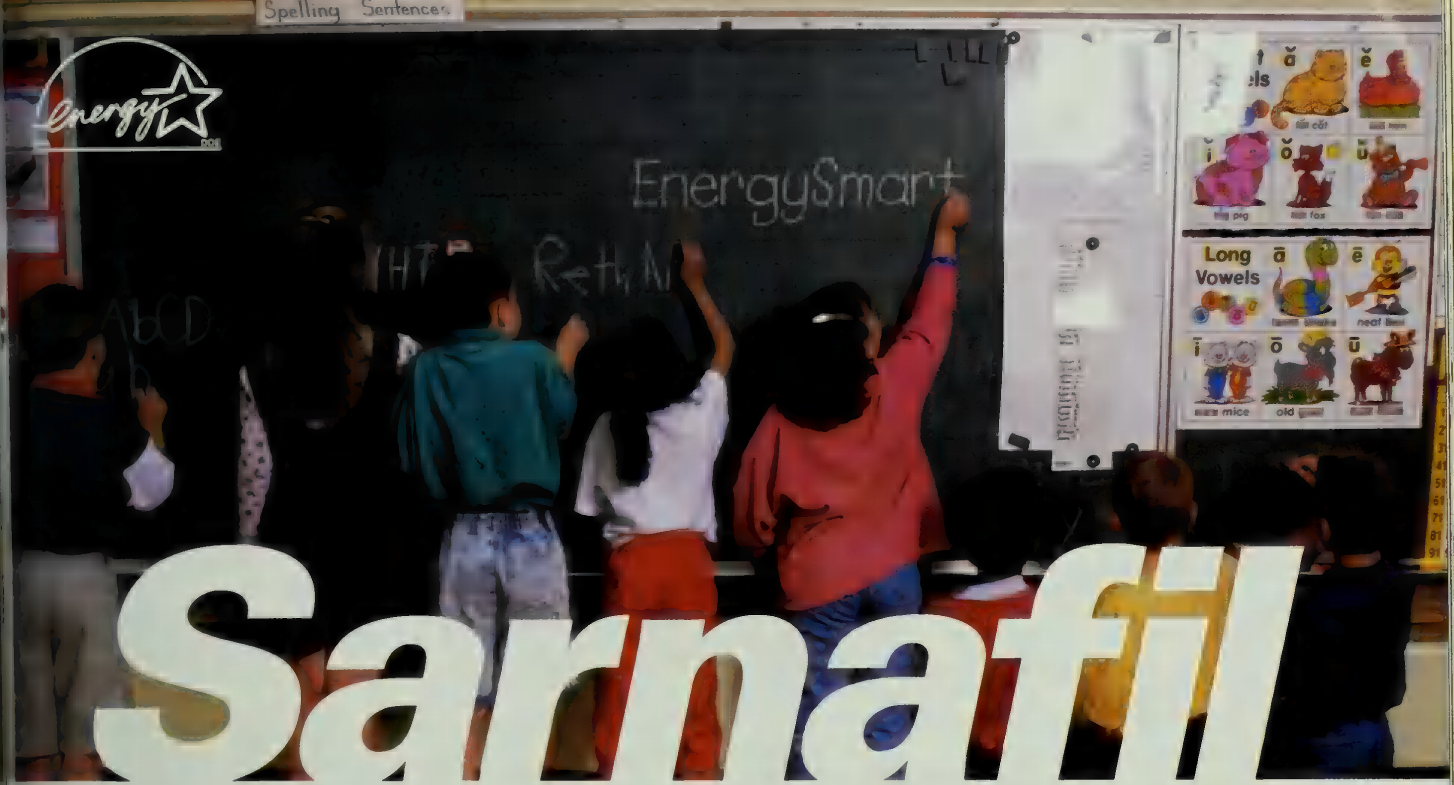
The two buildings form a knuckle between the main quad and the edge of the new quad, and permit a range of future build-out options. Both residences also foster a sense of coeducational community. Instead of a first-floor sitting room, a small dining area and kitchen can be used for study groups by day and snacking and socializing by night. Suites, composed of double rooms that share a living area and bathroom, face one another on wide corridors running the width of the building. Unless doors are shut, students can see from one suite into the next. The corridors' extra girth encourages sociability. ■



The six-level Stowe Hall (left) is two storie taller than Howard Hall, whose gables evoke rural New England farm buildings. Wide windows allow daylight into study spaces (below). Glass partitions and wide doorways and corridors impart a sense of openness. (bottom).







The smart way to keep a roof over their heads.

Putting educational funds where they count can be as easy as putting a Sarnafil ***EnergySmart Roof™*** over their heads. With ***ENERGY STAR****** compliant EnergySmart roofing, you'll start saving on HVAC costs immediately. Savings that keep on going for generations to come. Savings you can redistribute to vital educational spending. EnergySmart's highly reflective, thermoplastic roofing surface significantly reduces solar heat gain and lowers air conditioning costs by reducing heat from entering buildings in the first place.

In fact, ***EnergySmart Roof™*** has one of the highest reflectivity and solar reflective indexes of all roofing membranes tested by the Lawrence Berkeley National Laboratory. Backed by Sarnafil's 35-year track record of international success, EnergySmart's heat-welded membrane technology quite simply delivers performance and durability you can count on for decades.

Lower energy consumption. Lower operating costs right now. Life cycle savings for years to come. As you plan new construction, reroofing – or how best to comply with impending EPACT mandates for HVAC efficiencies – check out the facts. Call Sarnafil today for a free brochure and free sample of Energy Smart Roofing.

Choose the smart way to keep a roof over their heads. A Sarnafil ***EnergySmart Roof™***. The ceiling on educational spending just got a lot higher.

The EnergySmart Roof™

James Clark Elementary School
Agawam, MA

Sarnafil Inc.
100 Dan Road
Canton, MA 02021
Tel: 1-800-576-2358
Fax: (781) 828-5365
Email: webmaster@sarnafilus.com
Web: http://www.sarnafilus.com/ar.htm

Sarna
Sarnafil Division

CIRCLE 47 ON INQUIRY CARD

*As an ENERGY STAR® Partner, Sarnafil has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

What other floorcovering can offer this degree of design flexibility and durability all in one?

Rice University - Computational Engineering Building - Houston, TX
Architect: Kendall/Heaton Associates, Houston, TX
Designer: John Outram, England
Photography: Woodallen Photography, Houston, TX

Lafayette High School, St. Louis County, M
Designer: [illegible] Terrazzo Co., St. Louis, M
Photographs: [illegible] Group, St. Louis, M

Hightower High School, Fort Bend County, T
Architect: Spencer Associates Architects, Houston, T

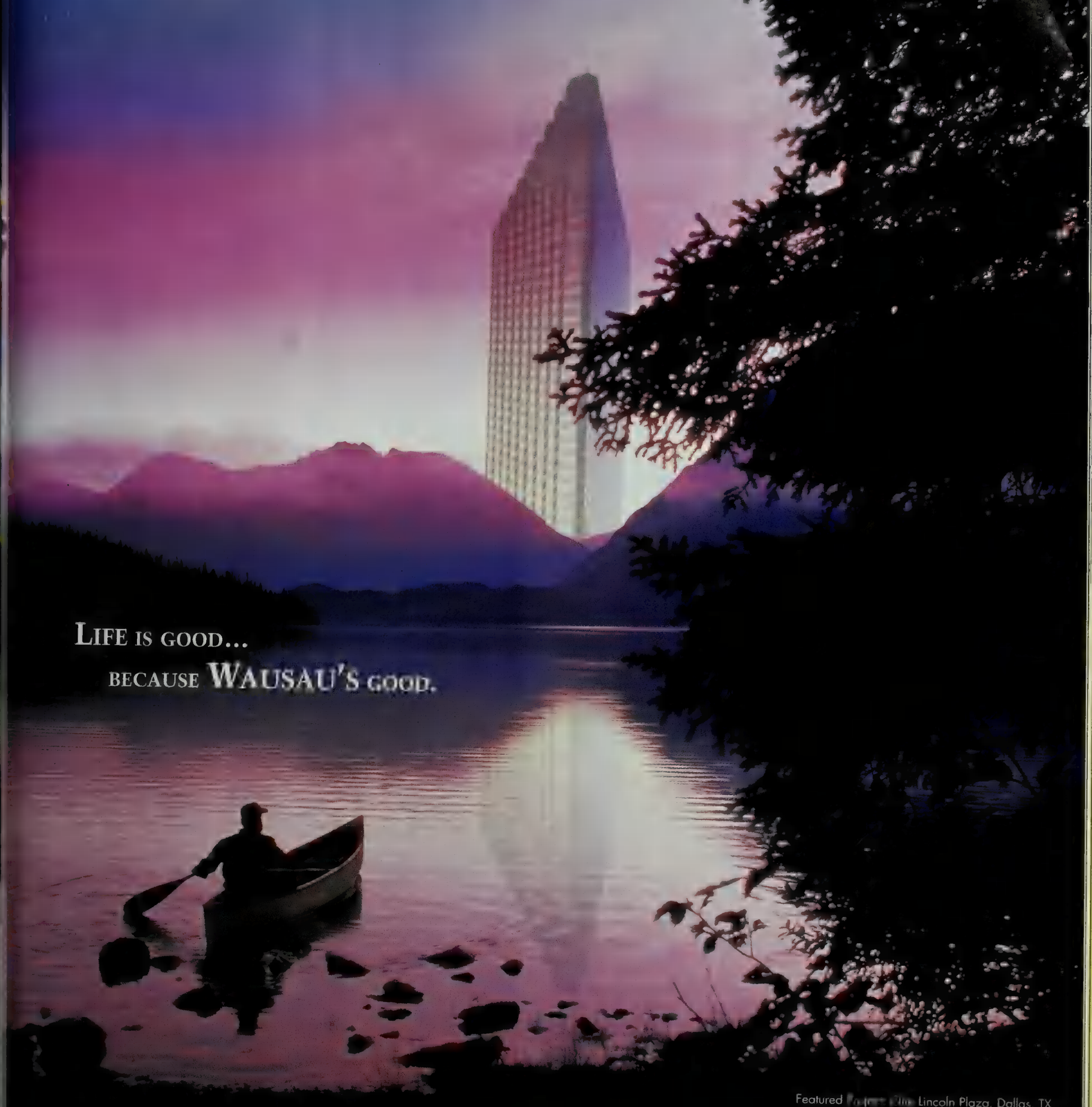
Unlimited Design Flexibility

Unsurpassed Durability

The use of terrazzo flooring literally goes back hundreds of years.
Why has such an art form lasted so long? Because of its unsurpassed beauty and durability.
The beauty of terrazzo is timeless. The durability outdistances most other flooring systems.
And the value of terrazzo in terms of both performance and economy is untouched!

National Terrazzo & Mosaic Association
#1-800-323-9736
WWW.NTMA.COM

CIRCLE 48 ON INQUIRY CARD



Featured [illegible] Lincoln Plaza, Dallas, TX

HAVE A CALMING EFFECT.

ects just seem to go smoother
Wausau Window and Wall
ems. From our pre-bid con-
ation, through engineering,
ufacture and installation,
Wausau customer service
keeps everything on course.

And our industry-leading 10-year
warranty on material and
workmanship adds an
extra measure of serenity.
Contact us today. We know
these waters.
Life is good...because Wausau's good.

WAUSAU
WINDOW AND WALL
SYSTEMS

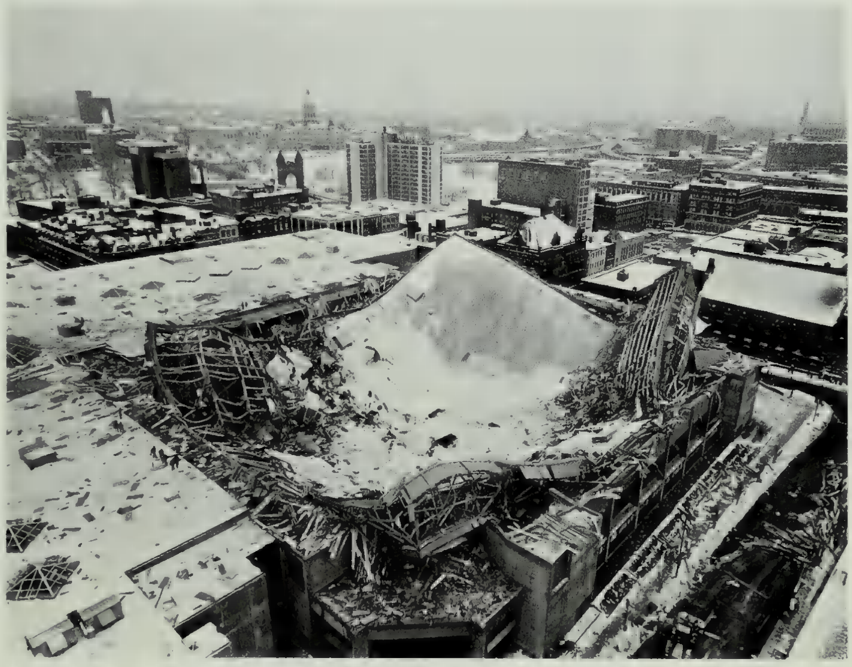
1.877.678.2983
www.wausauwindow.com

What can you do with certified wo
Thon
Headq
Hillsb
Sienna Arche
Corpr
Portl
Ar
Czp
Erde
Portl
Interic
FSC-Certified
Doors,
Work
Confere
Paneling
Recycled
Philippin
Reclaimed from Railroa
Certified Forest Products
CERTIFIED WELL-MANAGED FO
info@certifiedwood.org ◆ www.certifiedwo
CIRCLE 50 ON INQUIRY CA
This m... de possible through a grant
...able Trusts.

Sleuthing out building failures

"THINGS FALL APART," SAID YATES, BUT THERE ARE WAYS FOR ARCHITECTS TO MAKE BUILDINGS STAY TOGETHER—OR AT LEAST TO MINIMIZE THE PROBLEMS WHEN THEY DON'T.

By Deborah Snoonian, P.E.


The roof of the Hartford Arena collapsed in January 1978 under the weight of a heavy snowfall.

It is the destiny of the man-made environment to vanish," say Mario Salvadori, a former professor of civil engineering, and Matthys Levy, an engineer and principal of Weidlinger Associates in New York City, in the introduction to their book *Why Buildings Fall Down* (W.W. Norton & Co., 1992). Buildings are born, live, and die, the authors contend, just as all organisms do. Some, like the pyramids and the Pantheon, live on for a long time. Others die while still young.

Every architect who hears about a profound building failure recalls the lessons learned in architecture school during structural theory and ethics classes. Most designers have seen photos or read reports about the famous failures in recent history—the collapsed roofs of the Hartford Civic Center Arena in Hartford, Conn., and the Kemper Memorial Arena in Kansas City, Mo.; the shower of lass panels and other problems with the Hancock Tower in Boston, and, most disturbing of all, the collapse of the pedestrian bridges in the atrium of the Hyatt Regency, also in Kansas City. As one architect ays, "I still have nightmares about those buildings, nd about them being mine."

As with any early death, buildings that fail dramatically, or even uietly, invite shock and grief, as well as questions and investigations. The atter are the purview of forensic investigators who, by training, may be architects, engineers, HVAC specialists, building inspectors, or anyone involved in the design, construction, or maintenance of buildings. By virtue of experience, forensic experts are the Sherlock Holmeses of the built environment.

Deborah Snoonian is an engineer and writer in Washington, D.C.

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 170 and follow the instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

1. *List the major causes of building failures.*
2. *Explain how the science of building forensics determines the cause of failure or collapse.*
3. *Describe what steps architects can take to reduce the risk of building failures.*

WW *For this and more continuing education go to:* ***www.architecturalrecord.com***

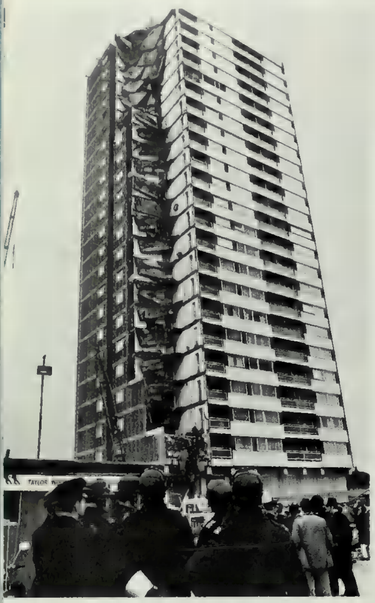
What fails most?

Building failures include everything from the dramatic collapses to the nagging, persistent problems—windows that leak, cracks in the cladding, poorly functioning HVAC systems, and malfunctioning roofs. These small failures are far more common than the crisis collapses that make headlines. "The majority of forensic problems are not spectacular in nature," notes engineer Lewis L. Zickel, who has investigated building failures for more than 25 years.

Statistics on the most common types of failures are hard to come by. One useful way to measure the frequency of failures of building components is to review claims made against architects. According to a 1996 study by DPIC, a provider of professional liability insurance for the design community, roofs, predictably, were the single element most often involved in claims against architects within recent years. Ten percent of the 3,700 claims reviewed involved roof problems, followed by walls (9 percent), HVAC (7 percent), and floors (6 percent).

Although architects aren't typically liable for mechanical failures of elevators and escalators, forensics experts say that these failures are [illegible] because they're so visible. "If a hotel elevator breaks down, everyone in the building knows it," explains David Odom, vice president of the building services group at CH2M Hill in Orlando.

The reasons for the failures are as diverse as the failures themselves. "It's seldom that one problem alone causes a failure," says Jack Stecich, a forensic investigator with Wiss, Janney, Elstner Associates in Chicago. The DPIC study enumerated the causes for each failed building component, all of which can be grouped under a few simple headings: faulty design, poor design management, failed communications, incomplete construction documents, equipment or material performance problems, and inferior workmanship. Poor building maintenance is also cited as a major cause for failure.


Four people died after an explosion at the 22-story Ronan Point Tower, near London, in 1968.

Many low-consequence building failures, particularly material failures, remain "below the radar" of design firms. Paint that peels prematurely or tiles that lift from their substrate are typically handled by facility maintenance staff and are not failures per se. Herein, however, lies an important lesson for many architects. "Owners, who pay the maintenance bills, have more knowledge about how buildings and building products perform than just about anyone else on a project. But architects rarely ask them how their buildings perform once they're off the site," Odom says. "No one gets sued over the niggling maintenance issues. Instead, you get an unhappy owner and a design firm that often doesn't know enough about their past projects and problems not to make the same mistakes again."

MANY BUILDING FAILURES ARE OF LOW CONSEQUENCE AND REMAIN BELOW THE RADAR OF DESIGN FIRMS.

Some owners—and even some architectural firms, particularly those involved in facilities management—track their building problems internally to focus their efforts on ensuring quality design and construction in the future.

Enter the forensic staff

When there are significant problems with a building, the owners are the ones who generally call in the forensic experts. There are no set rules governing how their investigations are conducted, but the initial tasks for each project are generally the same. Investigators start with a painstaking archaeological examination of the rubble, as well as the portions that remain standing, sifting through for clues to the building's demise. This might include taking core samples of existing walls, monitoring cracks for movement, videotaping the various building elements, and mapping the extent and location of the damage. They are also likely to examine CAD drawings and construction documents.

The forensic team documents site conditions through photographs, videos, and written logs. They interview building occupants, maintenance staff, witnesses, or anyone who might have insight into what

FAMOUS BUILDING FAILURES IN HISTORY

Greek Mausoleum of Halicarnassus, Greece
Built in **352 B.C.**, the structure was destroyed by an earthquake in the 1300s. The pile of rubble became a quarry supplying stone to the Knights of St. John. Some of the sculpture it contained was recovered and shipped to the British Museum in 1856.

The Pharos of Alexandria, Egypt
One of the Seven Wonders of the World, the 350-foot-high Pharos, a lighthouse, was built about **280 B.C.** It was destroyed by an earthquake in the 1200s.

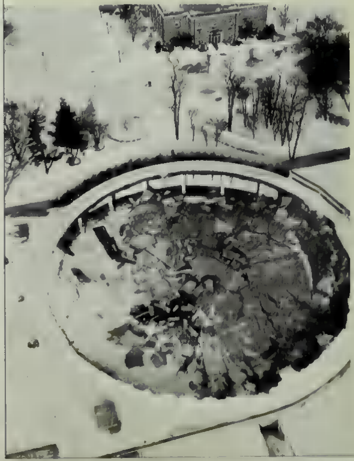
Binishell Domes, Australia
Developed in the **1960s**, architect Dante Bini's technique was to lay concrete over a balloon of plastic fabric. Two of these domes, both over Australian schools, failed when the complex construction method was not followed scrupulously.

C.W. Post College Dome Auditorium, Brookville, N.Y.
Built in **1970**, this shallow dome on the campus of Long Island University collapsed under heavy snow and ice cover in 1978. No one was hurt. Faulty design was the culprit.

Kemper Memorial Arena, Kansas City, Mo.
Home to two Kansas City sports teams and the location of the 1979 AIA National Convention, the arena was built in **1973** but collapsed during heavy winds and rain in 1979. Miraculously, no lives were lost. No single cause was found for the accident.

Hyatt Regency Hotel, Kansas City, Mo.
Two crowded walkways in the newly built hotel collapsed in July 1981, killing 114 and injuring almost 200. It remains the deadliest structural failure in U.S. history. Analysis found that the walkways had not been built as they were originally designed.

Pier 34, Philadelphia, Penn.
The 91-year-old pier, which held a popular nightclub, collapsed in May 2000. Three people died and 31 were injured. An inspection three days before the accident revealed structural deficiencies that indicated the pier was in danger of collapse.


An aerial view shows a frighteningly thorough collapse of the C.W. Post Dome.

CASE STUDY

Neglect of a fragile ceiling

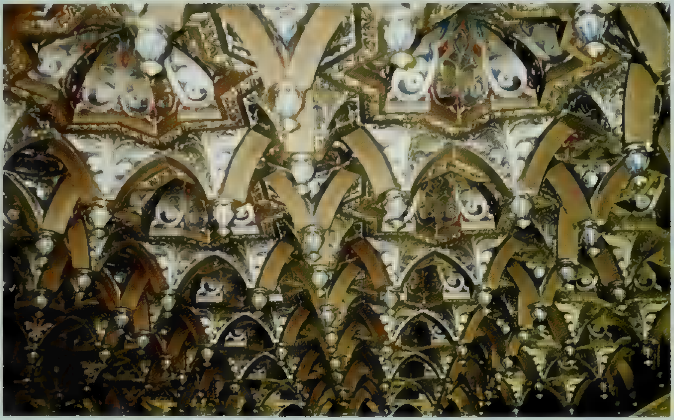
The Temple B'nai Jeshurun in New York City, built in 1917, was modeled after the Alhambra Palace in Spain: Hundreds of plaster stalactites hung from an ornate ceiling. In the early 1990s, construction began on a perimeter catwalk between the ceiling and the structural roof from which the ceiling hung. The catwalk was about one-quarter complete when a section of the decorative ceiling collapsed. No one was injured, but construction was halted to investigate what happened.

Zickel was called in to examine the collapse. "Right over the col-apsed area there were two wooden planks laid down on the ceiling suspension system," he says. "I suspected the contractors were walking on the suspension system, which was not designed to handle his kind of load."

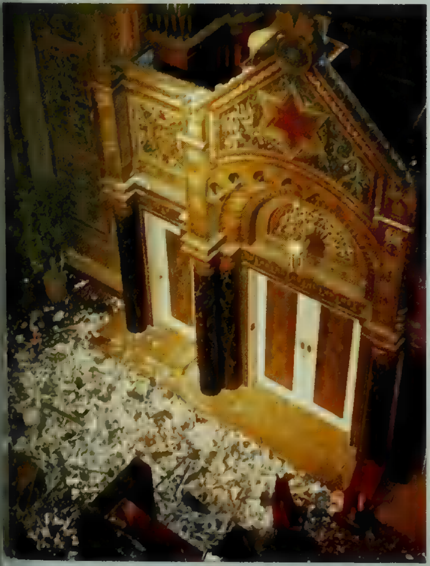
Attorneys wanted to know if ceiling damage already existed before the collapse, so Zickel and another investigator spent two months on scaffolding 45 feet in the air, taking photographs and mapping every break and crack in the plaster. "I bought a cervical collar nd wore it backwards so that it supported my head when looking p," Zickel recalls.

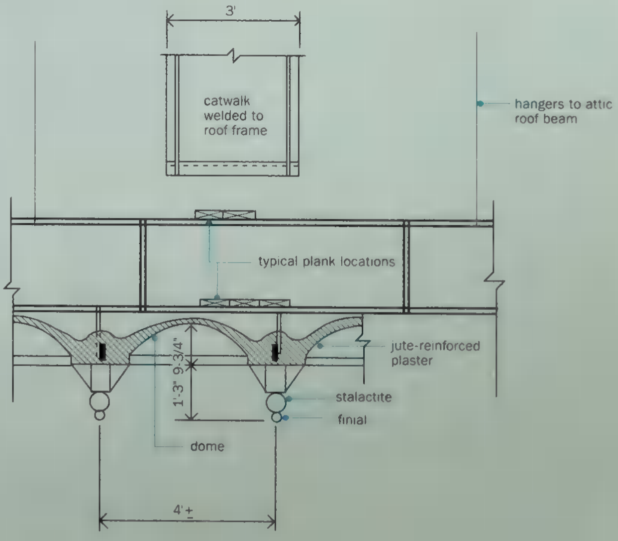
When they plotted the cracks n a print of the ceiling, they found the major areas of damage were in the locus of the planks. It became clear the collapse was indeed caused by the contractor's actions.

The stalactite-hung ceiling was ultimately dismantled. The contractor's insurer covered the cost of constructing a new ceiling, and the architect who designed the catwalk was not sued. This seems to be a simple case of contractor negligence, but, says Zickel, "There were no warnings on the design drawings or plans and specifications not to walk on the ceiling suspension system during construction. That was the architect's oversight. It may have seemed obvious not to do it, but the historic nature of the ceiling warranted a formal warning." *D.S.*



The fanciful, Moorish-style ceiling of the Temple B'Nai Jeshurun was divided into small domes ringed by stalactites (above). A section of the decorative ceiling gave way when construction workers walked on the suspended ceiling (below).





CEILING SUSPENSION SYSTEM

CASE STUDY

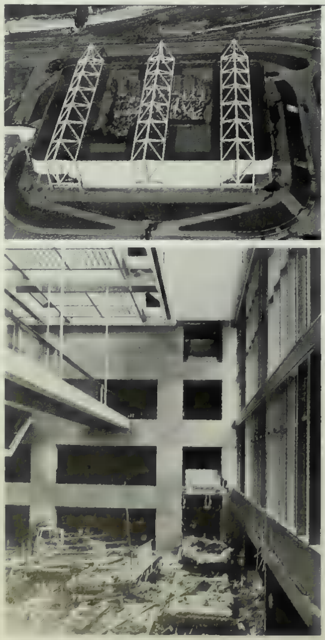
Trouble in the tropics

In 1995 the U.S. Army's Community and Family Support Center completed construction of a 12-story tower addition to the Hale Koa Hotel Armed Forces Recreation Center on Waikiki Beach in Honolulu. Almost immediately after opening, the new tower had moisture problems. Mold and mildew grew behind wall coverings, for example, leading to guest complaints.

"We examined the moisture problems and tested and evaluated the performance of the HVAC system," says David Odom, vice president of the building services group at CH2M Hill in Orlando, who did the forensic work. The project team found the hotel's design lacked some of the elements necessary for good performance in Honolulu's hot, humid climate. Specifically, room dehumidifiers weren't powerful enough, the makeup air system was unable to pressurize the building's interior, and an inadvertently misplaced vapor retarder in the wall assembly trapped moisture within the wall cavity. "Individually, these issues were important to the building's overall performance, and in combination their failure produced devastating results in this climate," explains Odom.

"Building problems like this typically have two causes: the inability of the design team to predict future performance of systems under the full range of conditions they are likely to encounter, and a lack of knowledge or appreciation of how individual building components will work together," he says. In this case, an in-depth analysis of the HVAC system and wall design during the early stages of the hotel design would have revealed potential problems that could have been corrected before the design was complete. *D.S.*

The new 12-story tower at the picturesque Hale Koa Hotel in Honolulu was plagued by moisture problems soon after it opened. It took two years and $5.1 million for architects CH2M Hill to diagnose and remedy the problems.



Two famous failures: the roof of the Kemper Memorial Arena (top), and the pedestrian bridges in the Hyatt Regency Hotel (above).

The obvious: What architects can do to prevent building failures

Architects, of course, will never fully eliminate the possibility of a failure on their projects. But designers can focus on activities within their control to minimize their risk of liability for failure. The recommendations below are intuitively obvious, but they are easy to overlook in the face of tight submittal deadlines, the pressures of designing quickly and on computers, and with limited budgets. These are essentially reminders of good practice habits.

Materials

Make sure incompatible metals and other materials are not combined, causing interactions such as differing rates of expansion and contraction between the components. Also coordinate design components to avoid incompatibilities between project features such as doors and walls, mechanical features, landscaping elevations, and other elements.

Risks

Make certain clients understand innovative technologies and materials, how they are used, and risks involved in their use. Allocate appropriate resources for research and use new products judiciously. Be sure the contractors on site are able to install them properly.

Costs

Be realistic about the limitations imposed by the budget and resist the temptation to get too much out of too little.

Practice

Avoid confusion among the different parties involved by taking a leadership role in coordinating design documents and submittals with consultants, contractors, and subs. Cursory "rubber stamp" reviews of submittals and shop drawings practically guarantee problems. Assign complicated design details to experienced designers instead of junior staff. Minimize the use of addenda to submittals, which make projects more difficult to manage.

Experience

Learn from past experience and similar projects. Seek input from th client, the design community, and other building owners as to the challenges of the project type.

Life span

Be realistic with owners in assessing how long the building and its materials will last.

Designing with copper?

Omnicom [illegible] Venice, Calif.
Frank O. Gehry & Associates

Ceridian Corporation, Bloomington, Minn.
Hammel Green and Abrahamson, Inc.

Phoenix Central Library, Phoenix, Ariz.
bruderDWL architects

You're not alone.

u've got the Copper Development Association
y your side. Our *Copper in Architecture* program
s all the information and technical assistance
ou want.
Want design details and specifications?
he *Design Handbook* has them for
rtually every application. They're avail-
ble in hard copy, on CD-ROM and in
oCAD® files. Want to learn about
pper roofing? Our six-part videotape
s loads of information on forms, shapes
d details. We even have a 72-minute video
installation guide for contractors. Need to earn continuing education units? We offer AIA accredited seminar and self-study programs that explore design fundamentals, techniques and installation. Plus, you have access to our technical databases, training programs and listings for manufacturers, local suppliers and contractors. Want to design with the material that helps the world's most famous architects stand out from the crowd? We'll stand beside you. Call **888-427-2411** or visit us at ***http://architecture.copper.org*** today.

COPPER
Unique. Beautiful. Enduring.
CIRCLE 51 ON INQUIRY CARD

CASE STUDY

Cladding for the climate

In 1972 the Standard Oil Company, now Amoco Corp., built its headquarters in Chicago; the 80-story skyscraper was the world's fourth tallest structure. The gleaming white Carrara marble cladding was its trademark, a unique feature for a structure so tall.

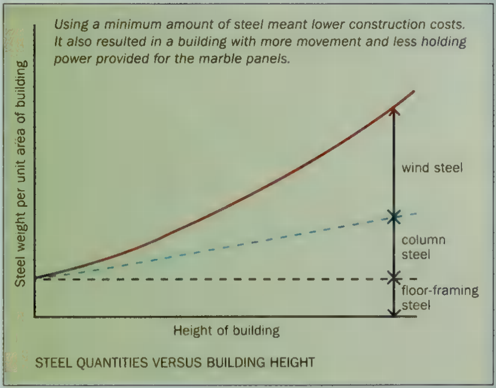
During a routine inspection in 1979, engineers noticed some premature cracking of the marble. They recommended that the owner monitor the damage and replace the panels when the cracks grew too large.

A subsequent inspection in 1985 showed a significant increase in the number and size of cracks. Inspectors also discovered cladding that bowed as much as one inch out of plane. Tests revealed the 1½-inch-thick marble had become too weak to withstand design wind loads.

"Marble loses strength when it's exposed to thermal cycling," says Jack Stecich, a forensic investigator with Wiss, Janney, Elstner Associates in Chicago, who worked on the Amoco Tower investigation. "The bonds in the grain break down when it expands in heat; when it contracts in cooler weather, the grains assume a different shape, which will eventually cause cracks to form." The bowing was also due to the thinness and resulting deflection of the steel frame. After investigating several options for correcting the problem, it was agreed that the approximately 43,000 marble panels should be replaced.

While searching for a suitable replacement material, engineers temporarily secured the weakened cladding by tying down each panel with stainless-steel straps. In 1991 the marble was taken off and panels of white granite, with a special surface finish developed to resemble marble, replaced the original cladding. The cost of the replacement was about one-half the original cost of the total structure. *D.S.*

Chicago's Amoco Tower was clad with marble panels that weakened and cracked upon exposure to weather.



Using a minimum amount of steel meant lower construction costs. It also resulted in a building with more movement and less holding power provided for the marble panels.

STEEL QUANTITIES VERSUS BUILDING HEIGHT

caused the failure. Using this information, the team develops possible explanations for the failure; their theories are then evaluated through lab testing of material samples, analysis of building electrical or ventilation systems, and additional site inspection. By analyzing the data in the aggregate, they uncover the most likely reasons for a failure.

When conditions are life threatening, a forensic team's primary goal is to contain the damage, like firefighters who prevent a blaze from spreading to nearby structures. "We work around the clock on emergency projects," says Daniel A. Cuoco, P.E., president of LZA Technology in Manhattan. "The first priorities are getting victims out alive and making sure the structure is stable and isn't a risk to public safety. We worry about collecting evidence afterward." They assist emergency personnel by helping locate areas where victims may be hidden and showing them safe routes through wreckage to reach victims.

The [illegible] inside the Kemper Memorial Arena after its collapse.

Collecting evidence is a crucial exercise in judgment and common sense. "On a collapse site, you can't take every beam and column. But you have to take enough samples in representative locations to get a good overall picture of the problem," Stecich says. "It's important to collect samples in an organized, systematic way. We usually develop a project-specifi nomenclature for labeling each piece of evidence," adds Cuoco.

Creating a chain-of-custody for evidence is especially importan in failures involving litigation because investigators must be able to trac each piece of evidence to its location on the site. And some evidence i perishable: for instance, fractured metal surfaces must be protecte against corrosion, which inhibits the ability to read the surface for clues "There are microscopic characteristics of a failure surface that will tell yo whether the failure was ductile or brittle, or whether fatigue or stress corrosion cracking was involved," explains Stecich.

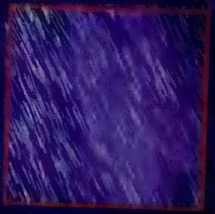
FIRST PRIORITY IS GETTING PEOPLE OUT AND STABILIZING THE BUILDING. THEN THE SEARCH FOR EVIDENCE BEGINS.

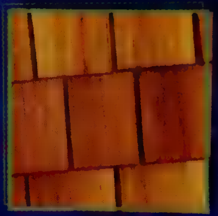
In cases involving litigation, the need for confidentiality an careful tracking and testing of evidence are tantamount and can mak or break an investigation. These are skills that can be learned only b working on case after case. "You don't have new college graduates say ing they're forensic experts. It takes time to develop the judgmen needed for these projects," explains Cuoco.

The National Academy of Forensic Engineers (NAFE) is dedicate to improving the art and science of forensic investigations. Their approximately 400 members have an average of 30 years of professional experienc NAFE publishes a peer-reviewed journal and sponsors seminars durin

created by nature to withstand nature

AVAILABLE WITH
FTX®
FIRE RETARDANT





As an architect, it's not just a roof, it's your reputation.

That's why you should specify Meeker premium cedar shakes.

As the most tested of all roofing products, cedar provides superior protection against

wind, rain, snow, and anything else Mother Nature can dish out.

And Meeker handcrafted cedar shakes come with a 50-Year Transferable Warranty,

so you—and your customers—can rest easy.

MEEKER

GENUINE CEDAR SHAKES

Circle 67 on inquiry card

Ask for Meeker cedar shakes, available anywhere within 10 days.
For more information please call 1.800.663.8761

www.meekercedar.com

© 2000 Meeker Cedar Products Ltd.

while members present cases they have investigated. "We teach what the universities don't teach," says Marvin Specter, executive director of NAFE. Zickel chairs the Committee for the Dissemination of Failure Information, part of the American Society of Civil Engineer's Technical Council on Forensic Engineering. Next year, the committee plans to release a series of learning materials on building failures commonly encountered by architects.

Tough solutions

An architect's job, aside from designing beautiful buildings, is to protect the health, safety, and welfare of the building's occupants. The question is, how is this job best accomplished?

Building commissioning may be one viable, if partial, solution. Some owners now use a sort of "dry run" that's typically done to test mechanical and electrical systems before opening a new building. This type of commissioning takes place during the design phase to ensure that buildings are designed for peak performance. The cost of commissioning is high—up to five percent of the contract value for a complex project. But especially on unusual buildings, commissioning saves money on future costs that are unknown and difficult to estimate.

THE SOLUTION FOR ARCHITECTS IS SIMPLE: A DEEPER CONSCIOUSNESS OF HUMAN AND SOCIAL RESPONSIBILITIES.

In their book *Why Buildings Fall Down*, Salvadori and Levy conclude that technology alone cannot prevent building failures. "Only a deeper consciousness of our human and social responsibilities can lead to the construction of safer buildings." These responsibilities are shared by engineers, owners, contractors, and architects. ■

Reflective glass panels on Boston's Hancock Tower fell during a windstorm.

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "Sleuthing Out Building Failures" using the learning objectives provided.**
- **Complete the questions below, then check your answers [page 242].**
- **Fill out and submit the AIA/CES education reporting form [page 242] or file the form on ARCHITECTURAL RECORD's Web site at www.architecturalrecord.com to receive one AIA learning unit.**

QUESTIONS

1. What are the most common building failures attributed to architects?

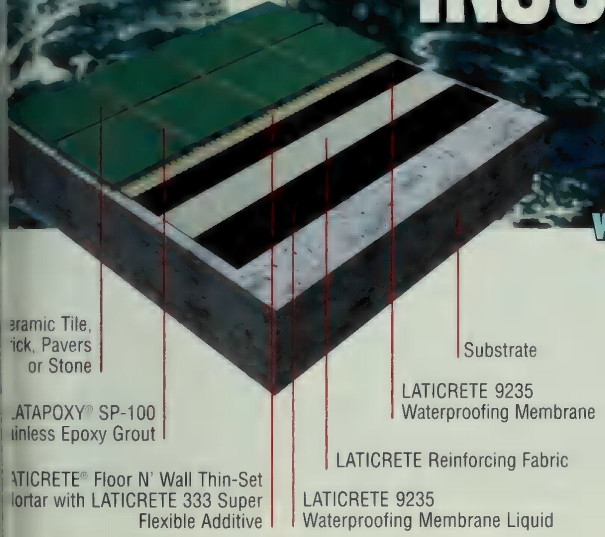
2. How does a building forensic team determine the cause of a building collapse?

3. What is a chain-of-custody and why is it important?

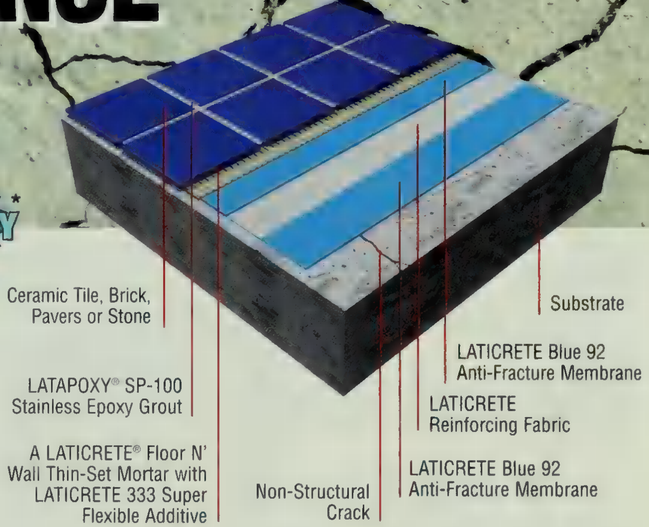
4. How can building commissioning alleviate building failures?

5. What can architects do to avoid their liability for common risks?

Tile & Stone Waterproofing & Anti-Fracture INSURANCE



HASSLE FREE WARRANTY*



LATICRETE® 9235 Waterproofing Membrane

"The Architects' Choice for RISK FREE Installations"

- Guaranteed not to leak or crack*
- Dual purpose – for waterproofing *and* anti-fracture applications
- IAPMO, ICBO approvals
- Meets rigid DIN standard for anti-fracture membranes
- Full fabric application
- *Extra Heavy-Duty* Floor Service Rating
- Approved for continuous submersion in pools and fountains

LATICRETE Blue 92 Anti-Fracture Membrane

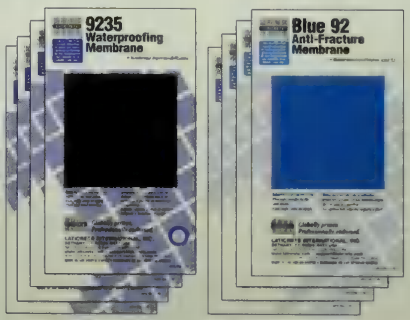
"When you only need anti-fracture protection"

- Guaranteed against cracking*
- Easy to install liquid applies like paint
- Full fabric application
- Meets rigid DIN standard for anti-fracture membranes
- *Extra Heavy-Duty* Floor Service Rating

*See DS700.12 Hassle Free Lifetime Warranty for Additional Details.

Globally proven.
Professionally endorsed.

TICRETE INTERNATIONAL, INC.
ICRETE PARK NORTH • BETHANY, CT 06524-3423 USA
203) 393-0010 • (800) 243-4788
203) 393-1684 • FAX ON DEMAND: (800) 359-3297
laticrete.com • support@laticrete.com
RETE MIDDLE EAST
971) 4-286-2627 FAX: (971) 4-286-2123
RETE ASIA PACIFIC
65) 262-4237 FAX: (65) 262-3701
RETE EUROPE
39) 0585-856-159 FAX: (39) 0585-856-160
RETE LATIN AMERICA
203) 393-0010, EXT. 218 FAX: (203) 393-1684



For an actual sample of these membranes absolutely FREE call 800-243-4788, Ext. 265.

Please specifiy 9235 or Blue 92 Swatch Card.

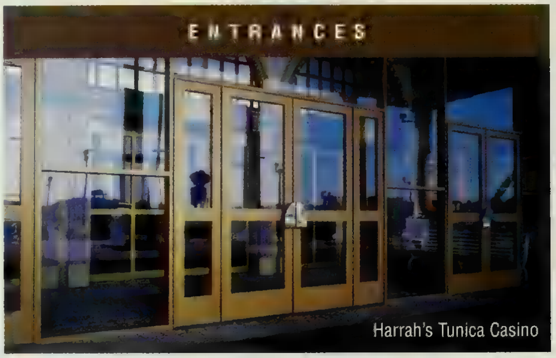
LATICRETE INTERNATIONAL, INC. ■ T.M. Reg. U.S. & Foreign Pat. Office A-978

CIRCLE 53 ON INQUIRY CARD

A Sure Bet

New York, New York Hotel and Casino / Neal Gaskin & Illia Gazanski Architecture and Engineering

CURTAINWALL


ENTRANCES

Harrah's Tunica Casino

Mandalay Bay Resort / Klai Juba Architects

SKYLIGHTS

WINDOWS

Foxwood Casino
Jester Cook and Jepson Architects

When it comes to casinos, it's best to bet on a sure thing.

At The Vistawall Group, we've helped construct casinos fit for the highest rollers.

From our curtainwall and skylights to our custom windows and doors, The Vistawall Group is known for providing superior building products. And you can bet that we're the dealer's choice.

The Vistawall Group has provided architectural products for some of the finest casinos in the country. We're your single source supplier: designing, engineering and manufacturing custom products for everything from major hotel/casinos and horserace tracks.

The Vistawall Group. Why gamble on anything else?

THE
VISTAWALL
GROUP
BUTLER MANUFACTURING COMPANY

800-869-4567
fax: (972) 551-6264
http:\\www.vistawall.c

THE VISTAWALL GROUP
BUTLER MANUFACTURING COMPANY

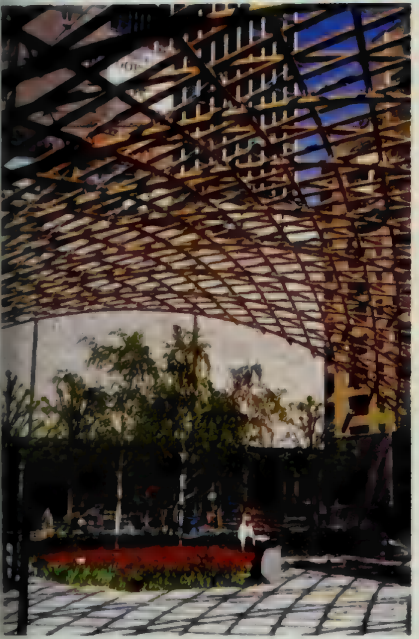
VISTAWALL ARCHITECTURAL PRODUCTS
MODULINE WINDOW SYSTEMS
NATURALITE SKYLIGHT SYSTEMS
SKYWALL TRANSLUCENT SYSTEMS

CIRCLE 54 ON INQUIRY CARD

Tech Briefs

Structures of cardboard, one in New York and one in Germany, show how versatile this material is ▪ Green architecture is honored with AIA awards to 10 "greenest" buildings

CARDBOARD-TUBE CONSTRUCTION HIGHLIGHTED AT MOMA EXHIBIT AND AT EXPO 2000 IN GERMANY



Architect Shigeru Ban's lattice arch creates dappled light in the MoMA sculpture garden.

Cardboard is not customarily thought of as a building material suitable for anything more complex than architectural models. Japanese architect Shigeru Ban, however, uses it in structures as others use wood or steel. Ban likes the material for its aesthetic properties, its recyclability, and the fact that it can be worked much the same as wood. Since the mid-1980s, he has designed housing, garden enclosures, even a church and a library, with hefty cardboard tubes—the ind that carpet and heavy-duty texles are rolled on—serving as tructural support.

Ban's two latest projects are a lattice arch in the sculpture garden t the Museum of Modern Art MoMA) in New York City and the apan Pavilion at the International xpo 2000 in Hannover, Germany. oth demonstrate how versatile and ubstantial this mundane and overlooked material can be. Cardboard tubes have a life cycle of 5 to 10 years, depending on where and how they are erected, says Andre Chaszar, senior engineer with Buro Happold in New York City. The firm served as structural engineer on both the MoMA and Expo 2000 projects. Cristobal Correa was the project engineer/manager. "Cardboard tubes, generally speaking, are one-tenth as stiff as wood and one-fifth as strong," says Chaszar. "In some ways, building with them is similar to wood-stud construction. But the scale is larger; most of the tubes used are six inches and up in diameter and 10 to 20 feet in height." Also, the relative weakness of the tubes means they must be spaced more closely together than wood framing.

Cardboard tubes are ideal for programs that require flexibility or deployable structures—like the MoMA installation, which was erected in April and will be disassembled this month.

Ban's arch is accomplished with four- to five-inch-diameter, brown-paper tubes that are positioned to allow the material to curve and form the arch—the bending radius of the tubes is not very tight and crimping them weakens the structure. Stainless-steel cables hold the bow.

As with wood, the specifications for the cardboard construction change according to the material's exposure to the elements. The lattice structure is open to the weather. So the manufacturer of the MoMA arch tubes used a proprietary waterproofing material in the paper to prevent it from softening and losing its strength. Polyurethane topcoats were also applied.

The tubes, which were premanufactured and lowered into place by crane, cover a third of the MoMA sculpture garden. The dappled sunlight beneath the arch makes the garden feel cool and shady and give it a distinctly different character than the balance of the space.

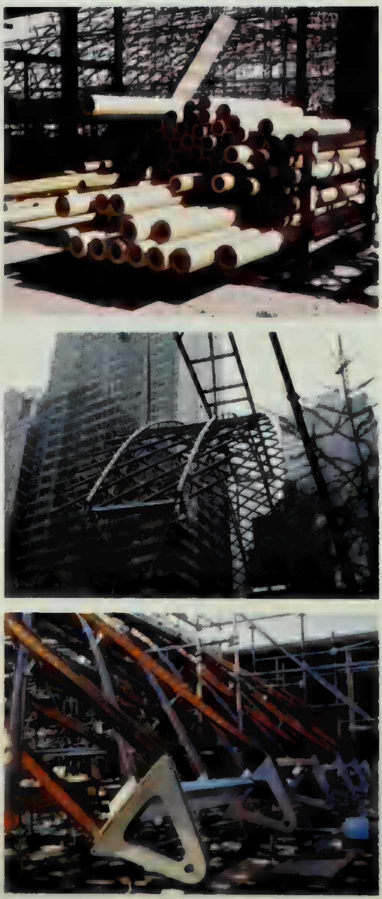
At the Hannover pavilion, a project on which architect and teacher Frei Otto consulted, the 115-foot clear-span, gridshell structure is constructed from a core of paper tubes clad with lightweight paper and polymer-coated polyester membranes. Most of the structure, like all of Ban's cardboard designs, is recyclable or reusable, and no foundations will be left behind after the pavilion is disassembled. "These are structures that do not weigh heavily on the earth in any sense," says Chaszar.

A clear, polymer-coated polyester membrane in the structure increases the daylight entering the hall. Elsewhere, however, the paper membrane offers a soft quality of light.

The cost of cardboard construction is difficult to assess precisely. "Not enough of this type of construction has been done for standards or benchmarks to exist," says Chaszar. Generally, the cost is comparable to or less than wood construction.

The raw material is inexpensive (if the tubes are used, they may even be donated by manufacturers), but the majority of cost is in the processing of the cardboard—adding coatings and designing a way to lock the tubes together. One technique is to use wood connections that resemble a dowel to which the adjoining tubes are nailed. The tubes can also be linked with custom-designed metal clips.

Building with cardboard is not much different than working with wood, says Chaszar. It is cut with the fine blades normally used in finish carpentry. Fabrication may be done by traditional carpenters or, as in the case of the MoMA structure, by steel erectors.
Wendy Talarico



The MoMA arch began with four- to five-inch diameter tubes (top). These were preassembled and lowered into place by crane. The arch rests on the ground and is tied to the museum wall (bottom).

BUILDING SOLUTIONS THAT ENHANCE THE ENVIRONMENT

Members of the AIA Committee on the Environment selected 10 buildings that best protect and enhance the environment. These were picked for their responsible use of materials, daylighting, energy efficiency, and sensitivity to local environmental issues.

Lady Bird Johnson Wildflower Center, Austin, Tex.; Overland Partners Accommodating research and education, the center (1) features a 250-seat auditorium, a botanical library, and research labs to educate visitors about native plants and ecological site development. A rainwater system, passive solar design, and recycled materials are used.

Bainbridge Island City Hall, Bainbridge Island, Wash.; Miller/Hull Partnership The new city hall (2) efficiently brings five departments, formerly scattered among different buildings, under one roof. Daylighting, natural ventilation, recycled and reused materials, nontoxic finishes, and certified wood provide a healthier and safer indoor environment.

Department of Environmental Protection, Ebensburg, Pa.; Kulp Boecker Architects A photovoltaic array and underfloor-supply air distribution boost energy efficiency (3). Modeling software indicates annual energy consumption will be 60 percent better than ASHRAE 90.1 levels.

Phillips Eco-Enterprise Center, Minneapolis; LHB Engineers & Architects and Sirny Architects The Phillips Center (4) connects underemployed laborers to employers with ecological businesses. Sustainable elements on the inner-city brownfield site include geo-exchange heating and cooling, daylighting, and salvaged steel, wood, and h[illegible]

Hanover House, Hanover, N.H.; Energysmiths Low energy consumption was the top priority in this superinsulated, solar-heated house (5). Special insulated glass, heat-recovery systems, airtight construction methods, water-saving features, and passive solar design also contribute.

C.K. Choi Building for the Institute of Asian Research, University of British Columbia; Matsuzaki Wright Architects Salvaged materials include brick, timber beams, doors, and frames. Gray water from the sinks and collected rainwater are used for irrigation. Natural ventilation and daylighting lower energy use.

The Emeryville Resourceful Building Project, Emeryville, Calif.; Siegel & Strain Architects This energy-efficient, affordable housing project uses conventional construction. Designers discovered that the cumulative effects of small environmental improvements generate significant results.

New South Jamaica Branch Library, Queens, N.Y., Stein White Architects The library's relationship to the sun drove its architectural form. Automated controls regulate shades, lighting, and ventilation dampers depending on the time of day and on the season. The building also contains recycled products.

McLean Environmental Living and Learning Center, Northland College, Ashland, Wisc. This student-housing complex [July 2000, page 185] includes computers that monitor a wind turbine, solar hot-water system, and photovoltaic panels. Students were involved throughout the design process.

World Resources Institute, Washington, D.C.; Hellmuth, Obata & Kassabaum Materials such as bamboo flooring and biocomposites made of wheat, straw, soy, and sunflower seeds are alternatives to conventional, but less environmentally friendly, products.

1

2

3

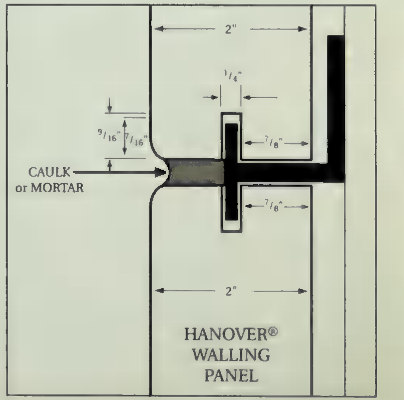
4

5

You've
got
us up
against
the
wall.

Hanover® Wall Panels

Stone - The first building material... long treasured for its architectural representation and, more practically - durability and strength. Unfortunately, cost and availability limit the use of natural stone. Now, HANOVER® introduces a line of exterior wall panels and curbing which brings the performance of stone into a high strength concrete product.



This new line of exterior wall panels bridges the gap between concrete and natural stone. Unique manufacturing methods truly reconstruct stone pieces into beautiful building panels. A wide range of sizes and thicknesses are available. The units can be prepared with either slots or grooves which will accommodate many styles of anchoring systems. HANOVER® can also provide custom aggregate blending services, so that the panels meet the needs of any project.

HANOVER®
Architectural Products
Where Concrete and Imagination Meet
240 Bender Road, Hanover, PA 17331
(voice) 717-637-0500 (fax) 717-637-7145
http://www.hanoverpavers.com

CIRCLE 55 ON INQUIRY CARD

It's big. It's clumsy. And it's not too bright.

Sound like your architectural software?

You can continue plodding along with your current CAD software, or you can make the smart move to ArchiCAD. It can be mastered surprisingly fast, and only ArchiCAD has been designed specifically for architects. Really, isn't it time you raised your standards and let go of the past? Embrace the intelligent and integrated approach to building design and documentation.

SEVEN REASONS TO SWITCH

- Intuitive commands easy to master
- Fully AutoCAD compatible
- Remarkable efficiency gains and ROI
- Cutting edge presentation features
- Fully parametric objects
- Time-saving automatic documentation
- 30-day money back guarantee

GRAPHISOFT®

Graphisoft and ArchiCAD are registered trademarks of Graphisoft R&D Rt.

ArchiCAD®

www.graphisoft.com/ArchiCAD 800.344.3468
Visit or call for a FREE Presentation CD and the location of an ArchiCAD dealer near you.

CIRCLE 56 ON INQUIRY CARD

Many models make the Rose Center

By Jerry Laiserin, FAIA

Software vendors perennially tout the theoretical advantages of “integrated 3-D models” from which data, linked to intelligent CAD objects, can be extracted for anyhing from cost and schedule analysis to direct fabrication. Even as this digital nirvana draws closer, eality is proving far messier than CAD theorists would have us believe. Consider, for example, Polshek Partnership's Rose Center or Earth and Space at the merican Museum of Natural History in New York City (pg. 98). At east eight distinct computer mod- ls, each describing different ttributes of the same building, ere created during its design and onstruction. This assortment of ools required intensive coordination y the entire project team—from rchitects to fabricators.

orm and structure

Sketching” software is incompati- e with CAD, so architects at olshek developed initial concepts eehand on paper. But the firm mediately moved schematic esigns into 3-D computer models sing Microstation CAD software ecause “drafting by hand is a dying t,” says Todd Schliemann, AIA, esign partner. It is faster to model an draw, especially for complex ometry. And a 3-D model can sily be used to generate color- ded plan and section drawings as eded for presentations to review- g agencies.

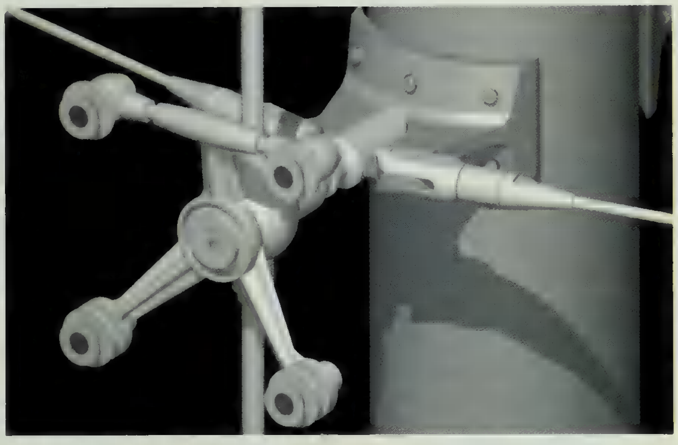
ntributing editor Jerry Laiserin, IA, provides strategic consulting vices to architects and their tech- logy providers.

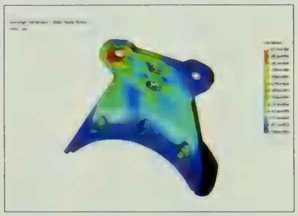
In the Rose Center, structural elements are expressed directly in architectural form. Polshek therefore used computers to design interactively with structural engineers Weidlinger Associates, also of New York. Weidlinger sized members and drew 2-D details in AutoCAD, while Polshek studied the resulting 3-D proportions in Microstation. Since neither firm was directly editing the other's data, these exchanges were simply a matter of referring to E-mailed copies of CAD files.

Fabrication

Weidlinger initially overnighted final 2-D AutoCAD details to the fabricator, Chicago Ornamental Iron, in Melrose Park, Ill., on floppy disks. E-mail was used later. To better understand geometry and fabrication issues, Chicago Ornamental retained young, computer-savvy architects in-house to create an independent 3-D AutoCAD model, which older, more experienced detailers studied to determine construction methods. The fabricator's team coordinated with Weidlinger throughout the shop-drawing phase via E-mailed 2-D and 3-D files.

While preassembling major components in the shop, Chicago Ornamental took digital photos and E-mailed them to Weidlinger for feedback. After the components were shipped to New York for assembly, on-site crews addressed assembly questions by E-mailing digital photos from the field to Chicago Ornamental.





The glazed exterior of the Rose Center (left) is held in place with stainless-steel spider castings and rod riggings modeled by the architect in Microstation Modeler (top). The rod attachment castings (above) were tested by the fabricator to make sure they could withstand building stress.

Some specialized components, such as stainless-steel spider castings and rod riggings that secure the Rose Center's glass skin to its structural frame, were first modeled by Polshek in Microstation Modeler, a 3-D mechanical design software that complements Microstation, and transmitted via E-mail to TriPyramid of Westford, Mass., for fabrication. TriPyramid recreated the architects' Microstation models of cast spider fittings in SolidWorks, which drives the casting equipment. Similarly, TriPyramid redrew the machine-cut rod riggings from scratch in 2-D AutoCAD, referring to dimensions annotated on Polshek's Microstation drawings.

Such solids “must be rigorously defined in terms of the order of operations in creating the piece,” says TriPyramid partner Michael Mulhern. “We need accuracy to eight decimal places for our computerized cutting machines,” which blindly follow even the slightest irregularity in a drawing. Despite all the intermediate steps, Schliemann believes that "the process gave us almost complete control over shape and finish."

Mechanical engineering

The architects also wanted to eliminate the possibility of condensation on the Rose Center's single-glazed exterior walls and roof, especially since the unoccupied upper reaches of the space would not be conditioned. Polshek needed a precise understanding of the interrelationships among outside and inside temperatures, air movement, and humidity.

To test the air-distribution scheme developed by the mechanical consultants, the numbers were cranked through a computer modeling technique called computational fluid dynamics. This method enabled the architects and mechanical consultants to reach agreement on the correct airflow design.

Exhibit design

For exhibit designers Ralph Appelbaum Associates of New York City, optimally locating and angling monitor displays and projectors inside a glass box required "identifying the quality of daylight versus the amount of media reflections and washouts," says project director Melanie Ide. To simulate daylighting effects, Appelbaum Associates created a separate AutoCAD model of the space, using data imported from Polshek's Microstation model. This included massing of buildings on neighboring streets for shadow casting and reflections, as well as material specifications for interior reflections and contrasts.

Representatives of Lawrence Berkeley National Laboratories in Berkeley, Calif., ran simulations and interpreted the results from a lighting analysis tool called Radiance. This analysis enabled Appelbaum Associates to relocate exhibits out of major solar paths. The designers also gained a better understanding of how to use color values—darkening portions of the flooring pattern, for example—to decrease reflectivity and improve contrast.

Lighting design

Lighting designers Fisher Marantz Stone of New York City began the design process by scanning a watercolor image sketched by the architects over a computer-generated 3-D wire frame. "That gave us a reference for what the architects wanted," says Charles G. Stone.

A copy of the architects' 3-D Microstation model was saved as a CAD-neutral DXF file and brought into Lightscape visualization software. Fisher Marantz Stone explored numerous schemes with Lightscape and tested them on progressively larger physical mockups, allowing for a step-by-step refinement of the computer model. A Lightscape visualization of the final lighting solution was plugged into the initial scanned watercolor, via PhotoShop, to get the architects' approval.

Stone uses tools such as Lightscape cautiously. "You're limited by the luminance of the computer monitor, which is disproportionate to the human perception of brightness," he says. "The stepping-stone approach, combining Lightscape and physical mockups, is an efficient and accurate way to understand the light behavior and effects."

Publicity

High-profile projects often require high-end rendered images for fund-raising and other publicity purposes. For this, Polshek turned to Dbox, a New York–based digital imaging house. Dbox assembled a 3-D model in Form*Z, derived from Polshek's fully detailed 2-D CAD files. Polshek, in turn, checked Dbox's preliminary renderings to identify precise viewpoints for the final images. The model was exported by Dbox into SoftImage software, digitally disassembled into chunks that were rendered individually, then stitched together into a finished image.

This digital rendering of the Hall of the Universe was created by individually rendering chunks of a computer model.

Coordination

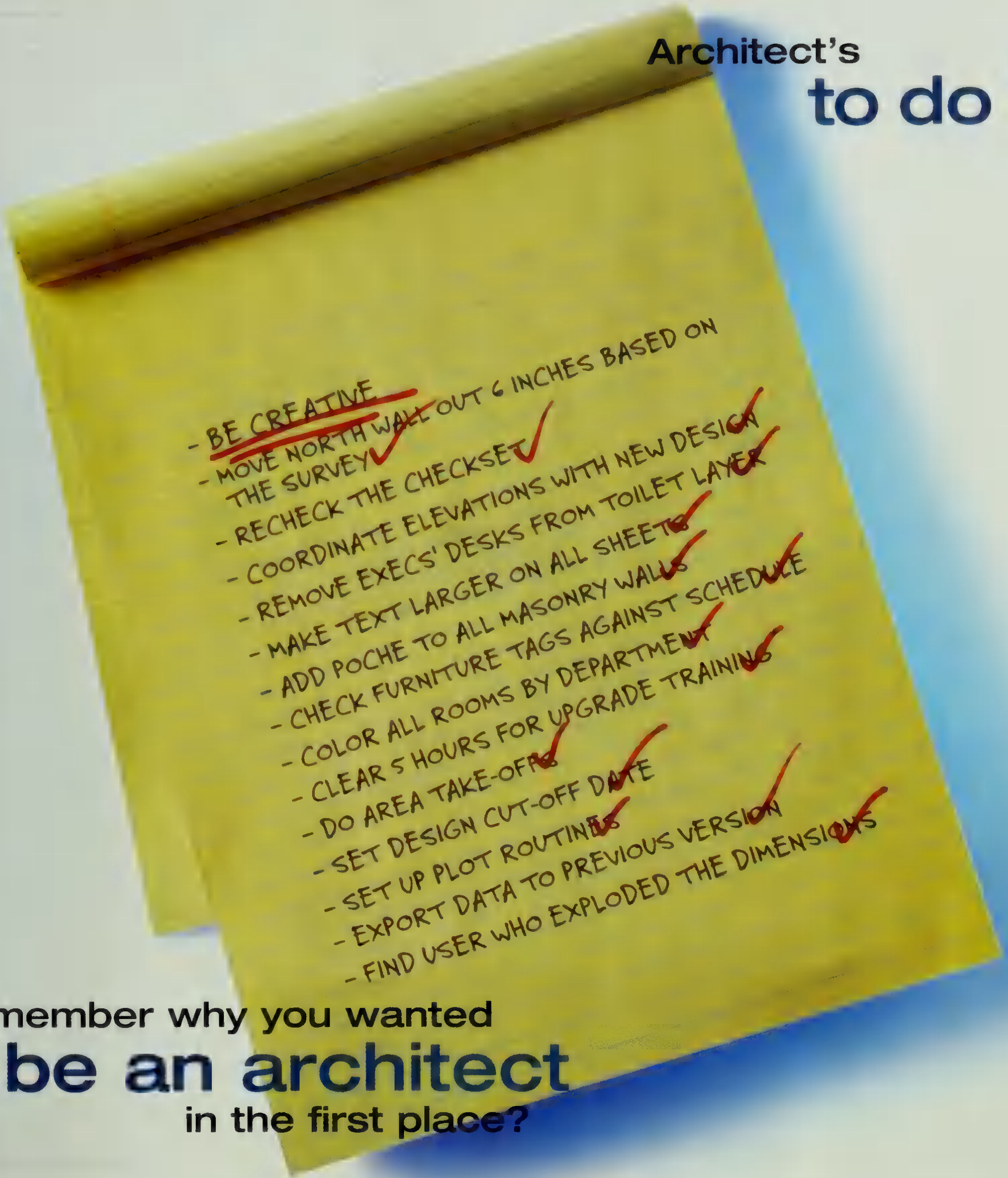
During the six-year project, Polshek upgraded its Microstation CAD software three times; went through three generations of desktop PCs; upgraded its network infrastructure and converted from NetWare to WindowsNT; implemented a new E-mail system; changed the network filing system; evolved its system for drawing standards and setup; and changed network administrators and CAD managers twice. (The first computer models, from 1994, predate the use of the Web for project collaboration; that option was never considered.) The various consultant underwent similar computer technology upheavals. All systems, files, and formats had to be coordinated across multiple generations and often incompatible versions. Was it worth the effort?

The answer is mostly yes. Says Michael Mulhern of TriPyramid: "The casting design could not have been done without computers." Matthys Levy of Weidlinger says his collaboration with Polshek "could not have been done without computer mode ing and communications." Matthew Bannister of Dbox notes that his company "would not have attempted to render a building this complex without the computer."

Architect Schliemann says he "used the computer as a tool to manipulate and understand the interstitial space, and to modulate the sequence of spaces—light to dark, compression to expansion." Melanie Ide of Appelbaum says tha computer analysis enabled the client to understand what the spac would look like.

Charles Stone has the last word: "The computer was indispen able. It enhanced our ability to imagine." ■

WWW *For a list of the Rose Center digital technology vendors go to* ***Digital Architect*** *at:* ***www.architecturalrecord.com***



Architect's
to do list:

- BE CREATIVE
- MOVE NORTH WALL OUT 6 INCHES BASED ON THE SURVEY
- RECHECK THE CHECKSET
- COORDINATE ELEVATIONS WITH NEW DESIGN
- REMOVE EXECS' DESKS FROM TOILET LAYER
- MAKE TEXT LARGER ON ALL SHEETS
- ADD POCHE TO ALL MASONRY WALLS
- CHECK FURNITURE TAGS AGAINST SCHEDULE
- COLOR ALL ROOMS BY DEPARTMENT
- CLEAR 5 HOURS FOR UPGRADE TRAINING
- DO AREA TAKE-OFFS
- SET DESIGN CUT-OFF DATE
- SET UP PLOT ROUTINES
- EXPORT DATA TO PREVIOUS VERSION
- FIND USER WHO EXPLODED THE DIMENSIONS

Remember why you wanted
o be an architect
in the first place?

ecture is all about composition. . . order. . . harmony.

now, however, architectural CAD software has been complicated, unwieldy, nconsistent with the real work of architecture.

changes all that.

- t makes it easy to design, because its parametric building modeler ourages design alternatives.
- t makes it easy to innovate, because it instantly revises all plans and views cted by any change.
- t makes it enjoyable to use CAD, because you work directly with real metric building components, not lines and arcs.
- Revit makes it easy to build, because it automatically maintains schedules with drawings. Revit always guarantees the model's consistency.
- Revit works with your current software, because it can open, read, and write industry-standard files.

In short, Revit changes everything. With Revit, your architectural software adapts to the way you work, not the other way around.

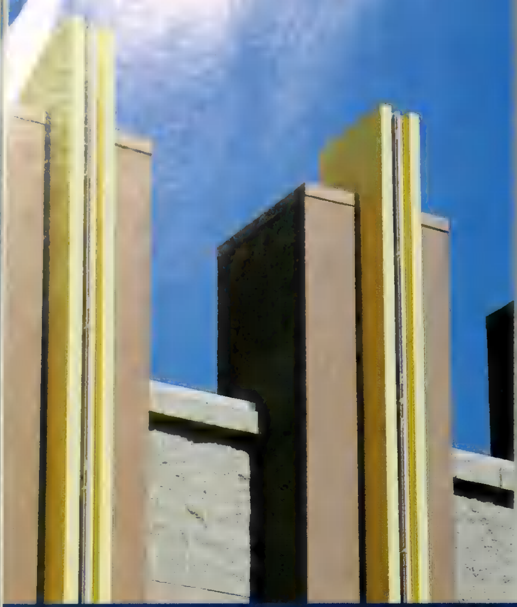
For more information, visit **www.revit.com**. You'll also discover a new way to buy Revit, via subscription. It's revolutionary. Just like everything else about Revit.

1 877 47 REVIT

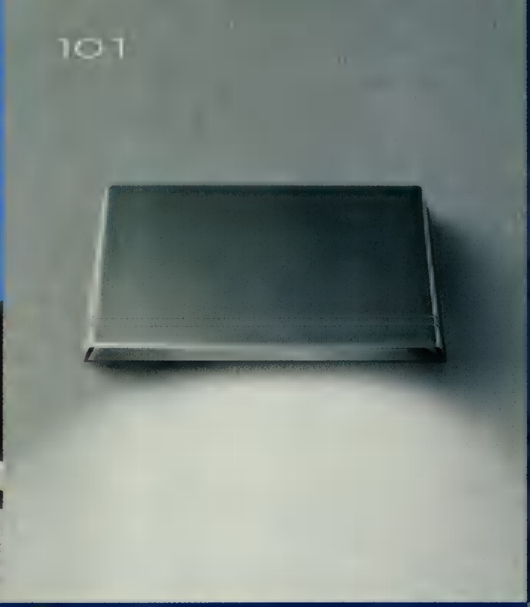
revit
revolutionizing building technology

CIRCLE 57 ON INQUIRY CARD

Copyright© 2000 Revit Technology Corporation
Revit is a trademark of Revit Technology Corporation

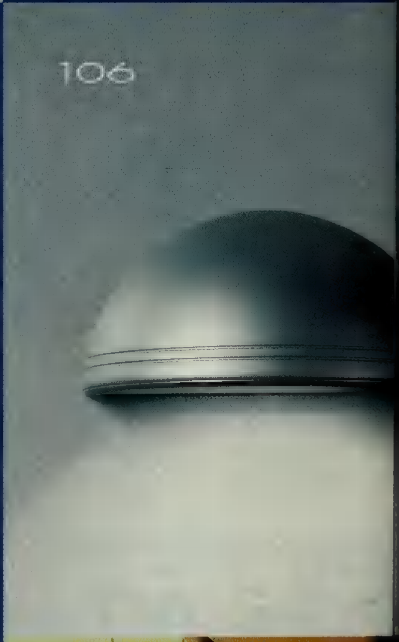


101

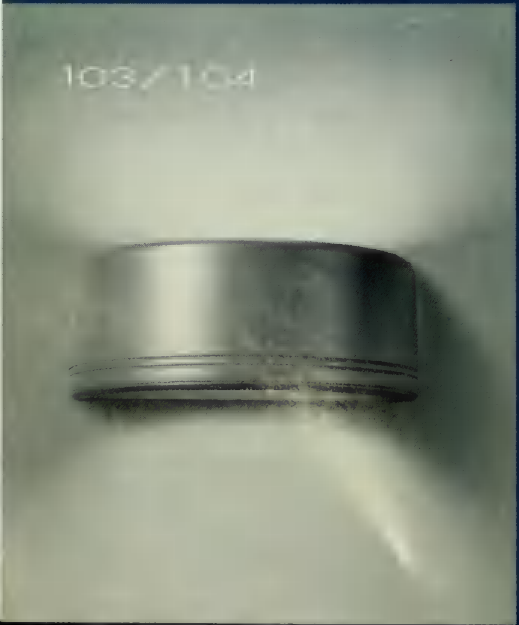


Clean lines. Purity of form. Timeless styling. Clarity of purpose. Integrity in construction. These are the inspiration, and remain the guiding principals in the design of a compelling series of sconces that are equal parts engineering, architecture and performance. In tapered forms, with subtle twin edge reveals, these refreshingly compact forms integrate seamlessly into virtually every architectural vocabulary. Sharp cutoff combined with high performance means fewer luminaires and complete elimination of light trespass... a welcome relief for neighbors and neighborhoods. From 70 to 400 watts these sconces are sources of illumination and inspiration.

106



103/104



For more information contact
your mcPhilben representative, or
www.mcphilbenoutdoor.com/ar

mcPhilben OUTDOOR

San Leandro, California
800.227.0758
CIRCLE 58 ON INQUIRY CARD

1 800 939 3567   1 631 549 2745

CIRCLE 59 ON INQUIRY CARD

LIGHTING...

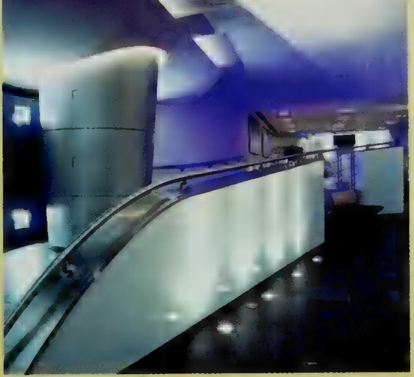
As quickly as you can look at the photographs to the right, you can learn a few practical lessons about lighting. What can you do, for example, to lower the ceiling plane of a space visually without actually lowering the ceiling itself? In a large meeting room at the Ewing and Marion Kauffmann Foundation in Kansas City, Mo., lighting designers Berg/Howland Associates accomplished this by hanging a series of pendants in the room (2). Renee Cooley and Emily Monato, of Cooley Monato Studio, used a similar approach by suspending simple globes from the ceiling of a Crabtree & Evelyn store in the World Trade Center (4). The primary source of light in both spaces—with the exclusion of the clerestories at the Kauffmann Foundation—is not the layer of ornamental light: It is the downlighting in the ceilings above.

A design for the entry of the British Telecom Tower (1), in London, is a study in using light to define surfaces, recesses, and the edges of planes, with simple washes and colored light. The intent of this tour de force, by Lighting Design Partnership principal Lee Prince, was to show visitors that they are entering the domain of a high-energy, technically savvy corporation.

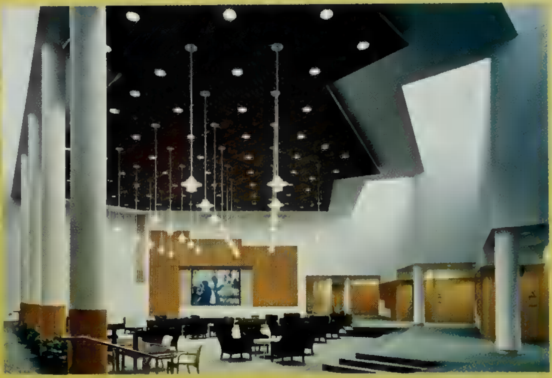
The last lesson is simple, and beautifully illustrated by the illumination of the UBS cone in Stamford, Conn. (3), by Stephen Margulies, director of Cosentini Lighting Design. Obviously, to illuminate a piece of stained glass, you have to decide which side you want to be lighted and place the lighting source on the opposite side. Here, Margulies wanted the exterior of the cone to glow, so he placed he lighting on the inside and aimed it outward. The final portion of his rule is that there must be less ambient light on the side of the object that is to show the light than on the side where the light ources are located.

You don't necessarily need to become a lighting designer to improve your understanding of lighting concepts and techniques. All t really requires is that you cultivate a heightened sense of the light hat is present when you are observing buildings. Next time you visit favorite place, remind yourself to try analyzing how the lighting works. What kind of fixtures were chosen by the designer, and what do they do? Does the lighting contribute to your appreciation of the rchitecture or take away from it, and why? What would you do in the space if you were the lighting designer? *Charles Linn, AIA*

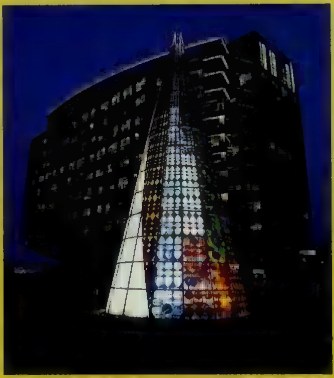
84 **Creative Uses**
88 **Lighting Retail Stores**
Cooley Monato Studio
96 **British Telecom Tower**
Lighting Design Partnership
[illegible] **Kauffmann Foundation**
Berg /Howland Associates
[illegible] **All About the New T5 Lamps and Ballasts**
211 **Lighting Resources**



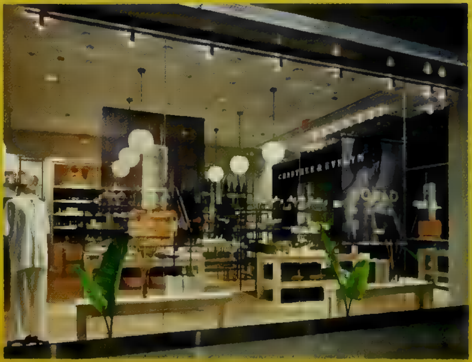
1



2



3



4

Creative Uses

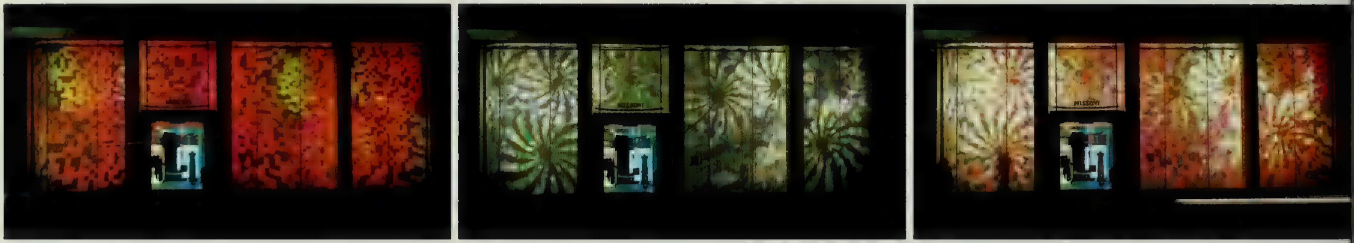
Colored swirls of light capture the essence of an upscale retail store on New York's Madison Avenue • An illuminated cone sculpture refines a bank's profile in Connecticut

ITALIAN CLOTHIER MISSONI MAKES A FASHION STATEMENT WITH BOLD STOREFRONT LIGHTING

Calling to mind a mod version of the emperor's new clothes, the streetfront windows of the Italian clothier Missoni in New York City have not a stitch of fabric. Light is used exclusively to cloak the flagship store after dark.

To make a bold fashion statement for the fashion house's first U.S. retail store, family scion Luca Missoni approached Anne Militello, principal of Los Angeles–based Vortex Lighting, to create an artful installation for the Madison Avenue storefront. Militello brought a playful sensibility to the retail location. "The Missonis urged me to create a piece of kinetic art," Militello says. "We decided to cover the glass exposure of the facade with a scrim awash in moving swirls of colored light."

Inspired by the Missoni fashion designs, the lighting designer abstractly translated the rich colors and textures of the Italian sweaters and textiles into the form of lighting. Collaborating with architect Mateo Thum, Militello hung a white scrim on a motorized, timeclock-controlled track, which covers the 65-foot-long by 22-foot-high glass facade. After the store closes each evening, the scrim closes and the light show begins. Twenty ellipsoidal reflectors mounted on a ledge fronting the store's interior second-story balcony—12 feet back from and above the scrimmed windows—project overlapping patterns created by fixture accessories including gels, gobos, and motorized wheels. Set on a three-minute cycle, the spectacle engages pedestrians walking th avenue or zooming by in taxis. *William Weathersby, Jr.*



To create a streetside spectacle after sundown, lighting designer Anne Militello used automated ellipsoidal reflectors with gobos.

The **deMajo** Collection

Designer **Orlano Favarett**

Poli Po Collection includes table, clamp, floor,
and pendant designs in 12 satin colors

CIRCLE 60 ON INQUIRY CARD

illuminating experiences

233 Cleveland Avenue • Highland Park, NJ 08904
Phone (732) 745-5658 • Fax (732) 745-9710

Structural™

KIM LIGHTING

16555 East Gale Avenue
City of Industry, CA 91745
626/968-5666

CIRCLE 61 ON INQUIRY CARD

www.kimlighting.com

A GLOWING GLASS CONE BECOMES A LANDMARK IN STAMFORD, CONN.

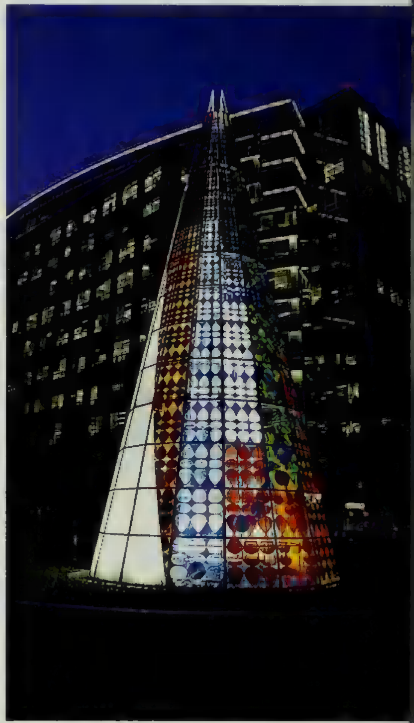
British artist Brian Clarke's sculpture for the Swiss Bank (now UBSAG) in Stamford, Conn., is a 46-foot-high cone made of stained glass. It was conceived as a quiet, meditative space which people can enter during the day. When illuminated at night, it becomes a beacon visible to drivers on a nearby interstate highway, passing trains, and pedestrians walking in the downtown district.

The site-specific sculpture is part of Stamford's public art program. The UBS cone is made entirely of glass, supported by a system of structural glass ribs and set within a bed of flowers. The apex is punctured with an opening, defined by glass fins. The project is a complex marriage of ancient stained-glass techniques and modern technology. Its design and installation was a collaboration between the artist, architects Skidmore, Owings & Merrill, and Cosentini Lighting Design, as well as the team of glassmakers and installers.

"The problem was finding a simple way to light the sculpture that would not detract or intrude upon its interior space in any way," says Stephen Margulies, director of Cosentini Lighting Design. The basic concept was to create a glow from within the cone, and project a beam of light through the opening at the top that would rise into the night sky. The lighting designers worked together with Clarke from the beginning to create a map showing how the 204 glass panels—some transparent, some translucent, others opaque—would glow when illuminated, to help compose and control the cone's nighttime appearance.

To avoid placing anything inside the cone that would obstruct its interior glass surface, all the lighting for the cone was recessed into the ground. A 4,000-watt Xenon searchlight located in a round concrete well dug into the center of the cone shoots a focused beam of light straight through the sculpture and out of the aperture at the top. It took six men to lower the six-foot-tall, three-foot-diameter fixture into the ground.

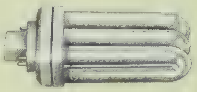
Eight adjustable 100-watt metal-halide uplights are mounted on the searchlight well wall and aimed at the upper portion of the cylinder. Four additional in-ground 70-watt metal-halide uplights are focused on the cone's walls to give the artwork a balanced glow. The well is protected by a four-foot-diameter metal grille. *Nayana Currimbhoy*



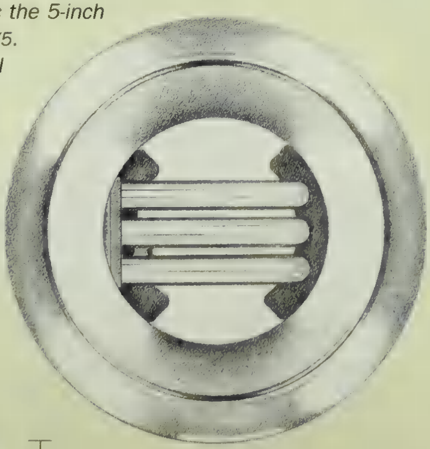
Cosentini Associates illuminated the 46-foot-high, stained-glass UBS cone in Stamford, Conn from within using a xenon searchlight combined with metal-halide uplights.

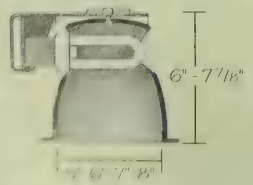
38 VARIETIES

*Our new **Triplux** compact fluorescent family totals 19 downlights and 19 wallwashers, and plenty of options for you. Consider the flexibility of five wattages – 13, 18, 26, 32 and 42 – plus four apertures – 5", 6", 7" and 8" – plus all those 1 or 2-lamp options. Need 20fc for a reception area? Spec the 5-inch diameter Triplux 113/5. Need 50fc for a retail space? Use the 8-inch 2-lamp Triplux 242/8. And so on... **Triplux:** today's lighting made easy. For the name of your local representative call 212-521-6900; fax 212-888-7981; email info@epl.com*



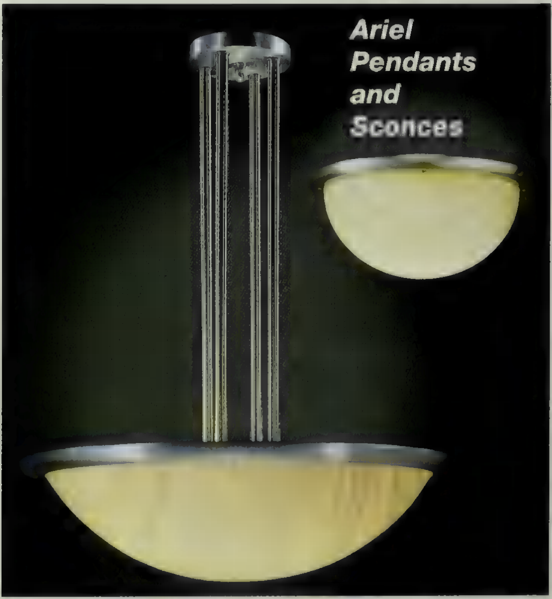
triple-tube lamp





EDISON PRICE LIGHTING

CIRCLE 62 ON INQUIRY CARD



THE ORIGINAL CAST™ LIGHTING

6120 DELMAR BLVD • ST. LOUIS, MO 63112
314.863.1895 • FAX 314.863.3278
www.theOCL.com

CIRCLE 63 ON INQUIRY CARD

For a complete
specification grade
architectural lighting
catalog, please contact
us at 262-242-1420 or
spi@spilighting.com

SPI Lighting Group
SPI
Advent

c UL us LISTED

CIRCLE 64 ON INQUIRY CARD

What's in store: Retail lighting standards focus on consumer psychology and flexible fixture schedules

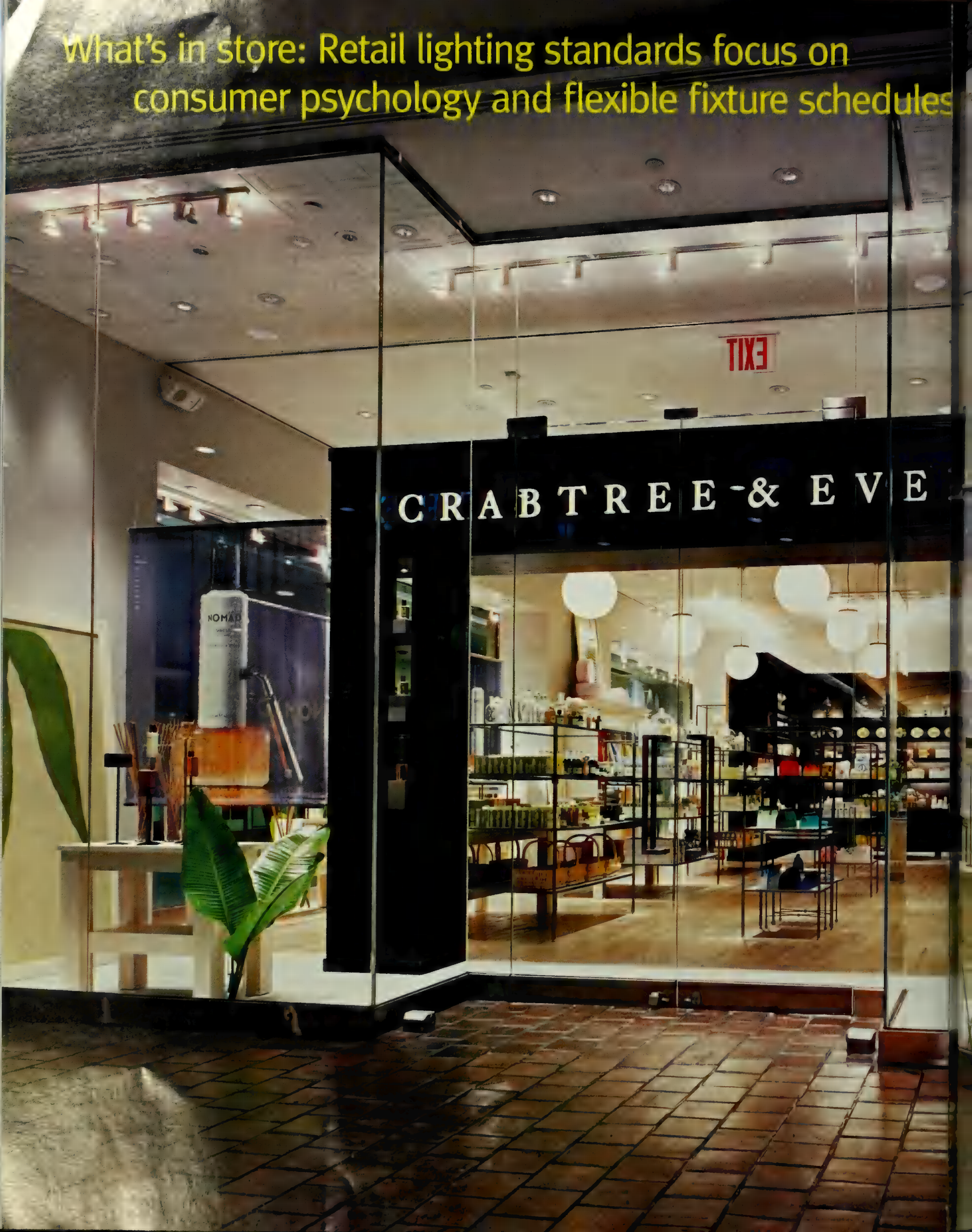


ILLUSTRATION: © LEE GLYNN

By William Weathersby, Jr.

When it comes to creating lighting standards for retail environments, "standard doesn't have to translate into uniformity or an array of only off-the-shelf equipment," says lighting designer Renee Cooley, principal of Cooley Monato Studio in New York City. Following the trend of custom cabinetry, furnishings, and finishes in high-end stores, retail lighting is increasingly sophisticated and refined, with layers of light helping to shape and transform the environment. "Standards come into play when a retailer wants to maintain a level of consistent quality from location to location, nationally or even internationally," Cooley says. Consumers begin to feel comfortable and at home within one of their favorite stores, and lighting plays a significant role in achieving that effect.

Although architects, store planners, and clients remain comfortable working with standards and production schedules for furnishings and finishes, retail lighting has sometimes been relegated to a final punch-list add-on item adapted to an individual store's site. With lighting design partner Emily Monato, Cooley has carved out a niche within their broader portfolio of work mapping out retail lighting standards—from custom fixtures to lightbulb maintenance schedules—for clients including Lancôme, Bergdorf Goodman, Crabtree & Evelyn, and Aveda.

The use of specialty fixtures is what often sets an A-grade, top-of-the-the-line retailer apart, Cooley notes. At Crabtree & Evelyn's Burlington, Mass., location, for example, fabric-shaded pendants, custom-designed by the architect, were used for a signature traditional look. Collaborating on a more practical fixture that could be adapted for the client's varied store locations, however, the design team later opted instead for blown glass globe pendants that house compact fluorescents. "Retailers certainly want products to stand out, but they also want the architectural space to have a life of its own," Cooley says. Adds Monato, "Retail lighting today is more and more about the environment."

For some national retail clients with rosters of stores with varied footprints and product lines, Cooley Monato Studio creates three (or more) lighting standards for A, B, and C grade stores—a menu of "illumination à la carte." The differences in each case (see chart below) are the quality of finishes and materials, the number of total fixtures, and the amount of customizing required. "You establish an overall vocabulary that ties the look of each location to the parent company," Monato says.

Other shopper-friendly trends the designers have been incorporating into their lighting designs are new advances in lamp technology. "Retail environments lend themselves to experimenting with lighting effects," Cooley says. Among her recent favorites: triphosphor T5 lamps. "The smaller diameter means it tucks well under a shelf." ■

MULTI-LOCATION RETAIL LIGHTING STANDARDS

LIGHTING LAYER	"A" STORES	"B" STORES	"C" STORES
ACCENT LIGHTING	RECESSED FIXTURES ONLY, MODEST PROFILE: SMALL APERTURE OR MULTI-HEAD IN RECTILINEAR HOUSING. MIGHT BE FLANGELESS. HIGH COLOR RENDERING SOURCES, PROBABLY HALOGEN OR CERAMIC METAL HALIDE	RECESSED IN CENTER OF SELLING AREAS; TRACK AT PERIMETER & IN WINDOWS; OR TRACK ONLY IN ARCHITECTURAL POCKETS. HIGH COLOR RENDERING SOURCES	TRACK ONLY ON SELLING FLOORS & WINDOWS, SURFACE-MOUNTED OR RECESSED IN UNDERSIDE OF CEILING. HIGH TO VERY GOOD COLOR RENDERING
AMBIENT LIGHTING	ARCHITECTURALLY INTEGRATED SUCH AS A COVE, PERIMETER WALL SLOTS OR A-GRADE DECORATIVE PENDANT OR FEATURE LUMINAIRE	RECESSED DOWNLIGHTS, 6" OR SMALLER APERTURE WITH WIDE DISTRIBUTION, BUT GOOD CUT-OFF FOR FILL LIGHTING OR B-GRADE DECORATIVE PENDANT. CONSIDER COMPACT FLUORESCENT SOURCES	RECESSED, LARGER APERTURE COMPACT FLUORESCENTS WITH VERY WIDE DISTRIBUTIONS OR RECESSED FLUORESCENT TROFFERS · 1 X 4'S OR 2 X 2'S
MILLWORK/DISPLAY FIXTURE LIGHTING	INTEGRATED LIGHTING (UNDER-SHELF, BACKLIGHTING, HIGHLIGHTING)	SOME INTEGRATED LIGHTING	NO LIGHTING IN MILLWORK

OTHER ASPECTS OF THE LIGHTING DESIGN TO CONSIDER ARE THE LEVEL OF SPECIAL EFFECTS LIGHTING (INCLUDING COLORED LIGHT), SIGN AND/OR ENTRANCE LIGHTING, DECORATIVE LIGHTING SUCH AS WALL SCONCES, AND CONTROLS (DIMMING AND SWITCHING). THESE VARY WIDELY, NOT ONLY AS THEY RELATE TO BUDGETS, BUT ALSO TO STYLE. IN ALL SITUATIONS THE SPECIFICS COULD BE MAPPED.

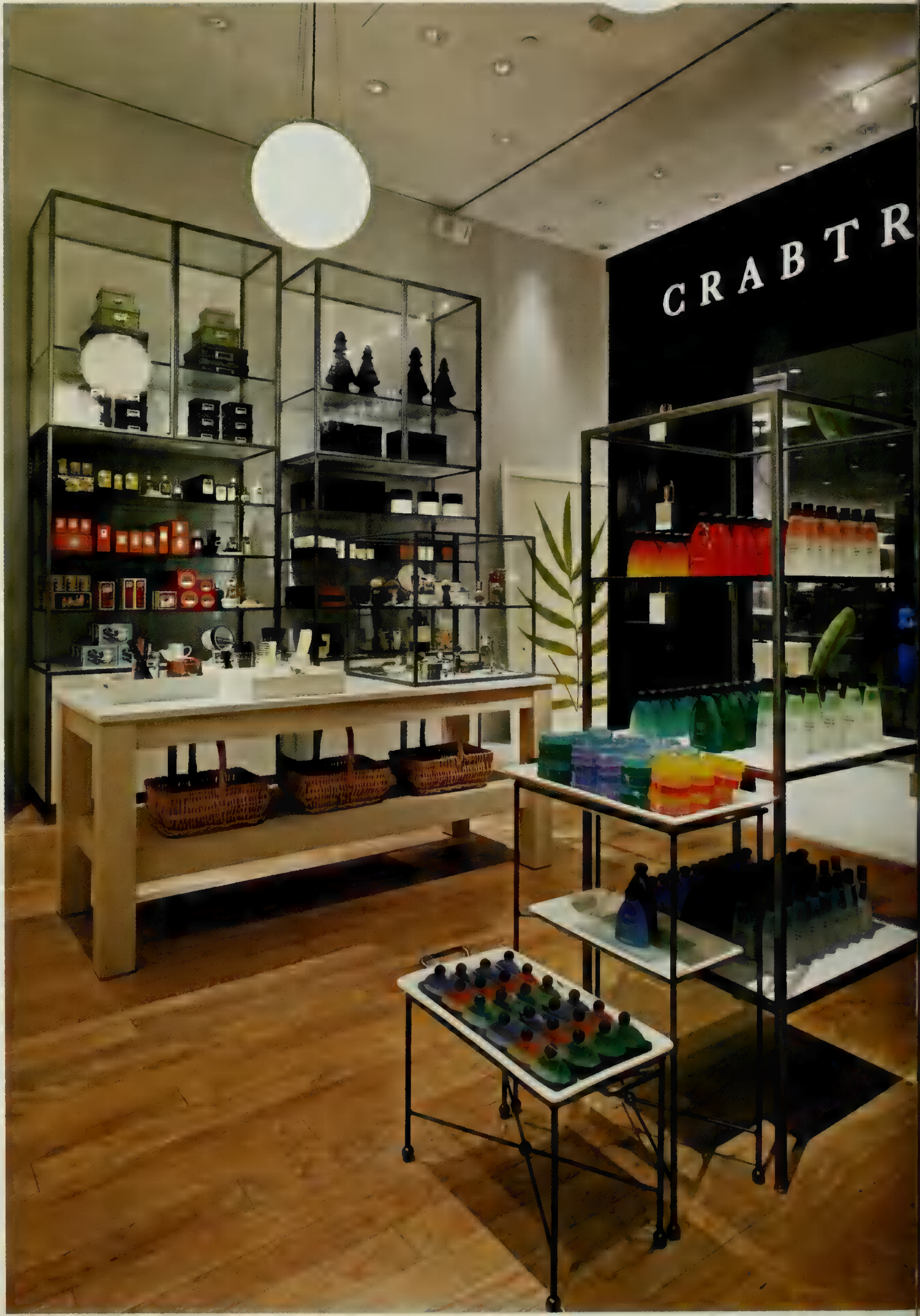
LIGHTING POLISHES CRABTREE & EVELYN'S UPDATED STORE IMAGE

Crabtree & Evelyn, purveyor of toiletries and home accessories, recently updated its in-store look to keep pace with growing competition in the retail packaged-goods "pampering" industry. Although it is an American-based company, the retailer's imagery—from its prim name to its packaging—evoked an old-world apothecary. The company enlisted MR Architecture & Decor to trade in its dark millwork and printed fabrics for lighter materials and airier spaces. At New York City's World Trade Center, a 1,400-square-foot space with corner frontage on the interior mall was gutted and refitted with fixtures and new vignettes, such as a bathroom environment.

"The lighting leads customers through the store and subtly showcases the products," says Cooley Monato Studio principal Renee Cooley. Recessed adjustable fixtures fitted with 65-watt, 25-degree-angle MR16 lamps are located at the front of the store's selling area. The luminaires, with 4-inch apertures and white dye-cast trim, highlight wall displays. "Spread lenses ensure that the pattern of the lightfall is a smooth, subtle, and even wash," Cooley says.

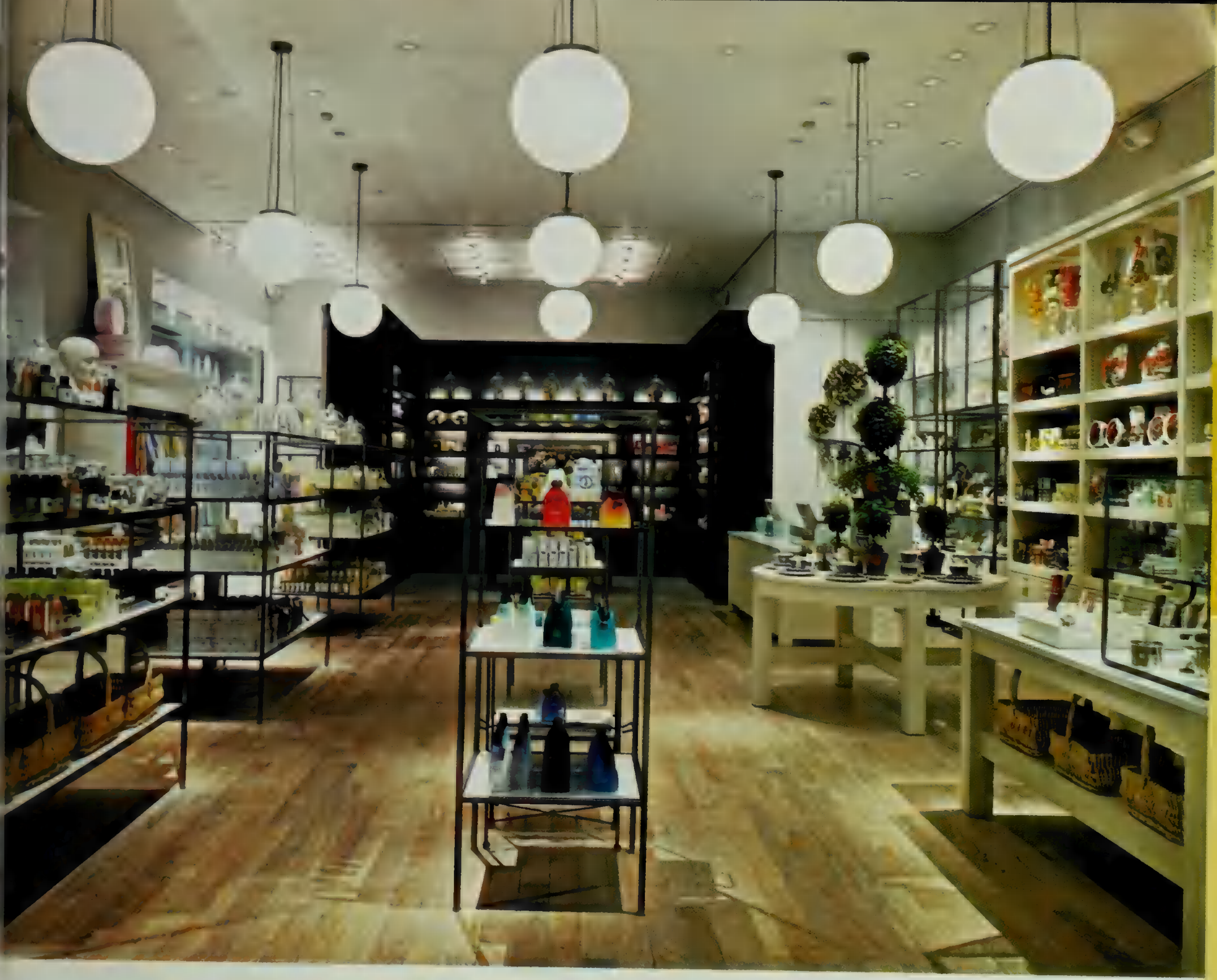
The ceiling fixtures in the apothecary shelving area use 100-watt A21 lamps fitted into decorative sockets, recessed into a pressed-tin ceiling grid of one-foot squares. The lamps specified are inside-frost silver-bowl units, to provide diffuse illumination.

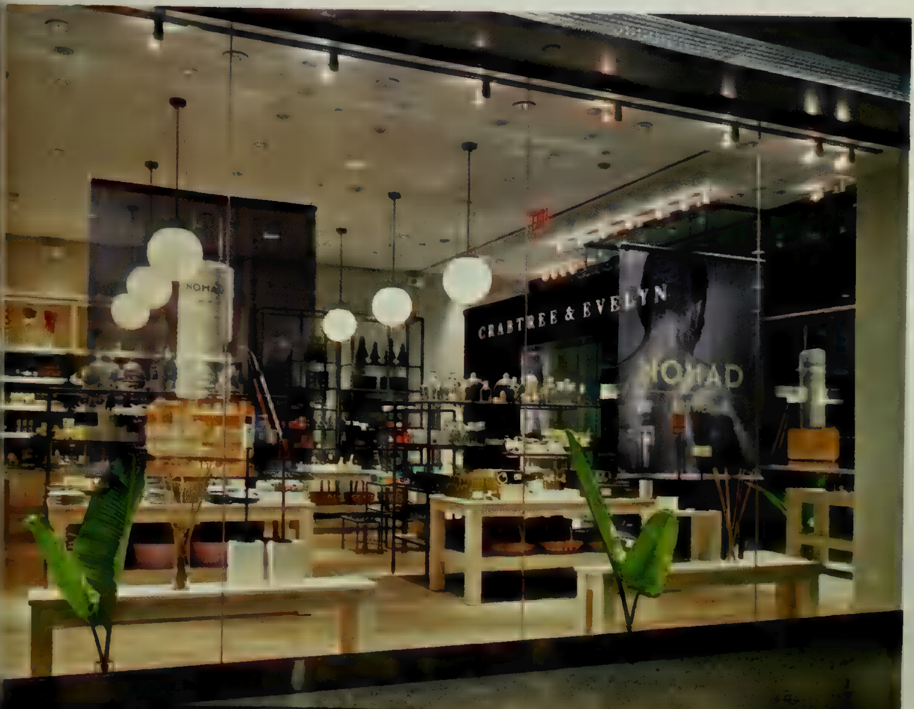
At the rear of the store, shelving units integrate T5 fluorescents with a 3000K temperature. "The fixtures were engineered to have a minimal profile for showcase lighting," Cooley says. Additional tracks spotlight displays with MR16 lamps featuring 25-degree beam spreads. White glass globe pendants are a new signature look. The 21-inch-diameter fixtures, with compact fluorescents, are "a modern interpretation of an early-20th-century pharmacy fixture," Cooley says. ■



Project: *Crabtree & Evelyn, World Trade Center, New York City*
Lighting designer: *Cooley Monato Studio—Renee Cooley, project principal; Yu-Huang (Ray) Chen, Joo Baik, designers*
Architect: *MR Architecture & Decor—David Mann, AIA, principal; Philipp Mainzer*

Sources
Recessed adjustable MR16s: *Cooper Lighting*
MR16 track fixtures: *Lightolier*
Shelving T5 fluorescents: *Bartco*
Custom glass globe pendants with compact fluorescents: *MR Architecture & Decor*





Display cubicles near the front entry "proscenium" (opposite and previous spread) are lighted with halogens. Custom glass globe pendants housing compact fluorescents (above and left) provide ambient light, while apothecary shelving units feature integrated T5 fluorescent lamps.

AVEDA'S NATURALISTIC ETHOS IS EMPHASIZED BY CLEAN LIGHTING

Promoting its beauty and personal-care products with the marketing tag line "The art and science of pure flower and plant essences," Aveda is a company with nature on its mind. Selling lotions and creams created from natural ingredients, it recently tailored new stand-alone stores to carry through the environmentally friendly ethos.

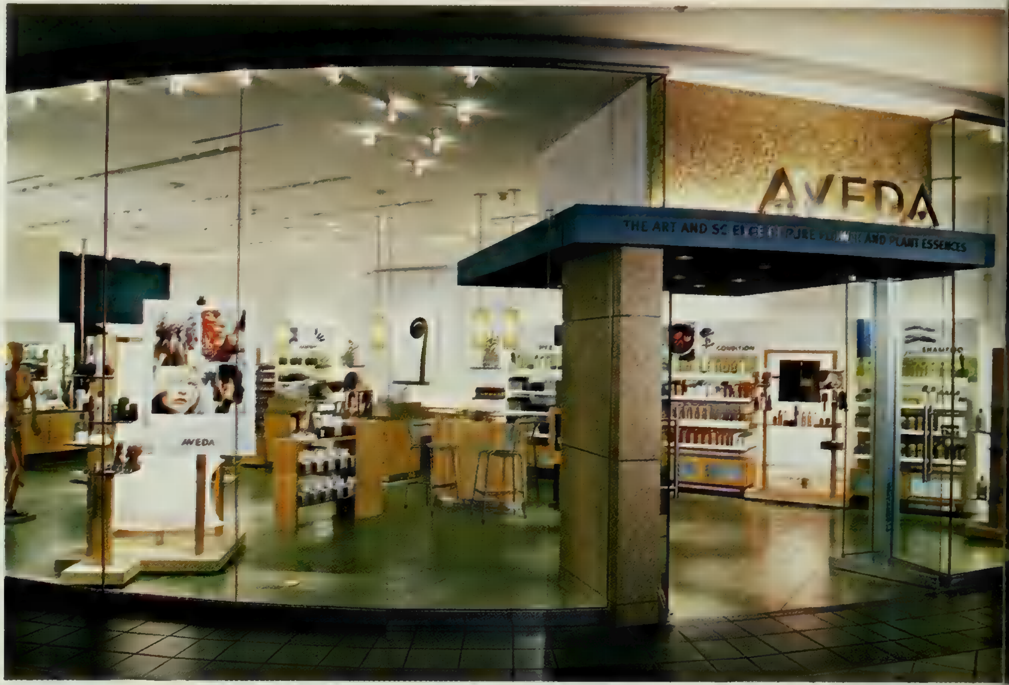
"The executives wanted spaces that were welcoming and helpful to the consumer, as well as environmentally responsible," says Cooley Monato Studio principal Emily Monato. The newest Aveda locations were planned to be cleaner in line, more thoughtfully organized, and more reliant on natural materials than its existing sites.

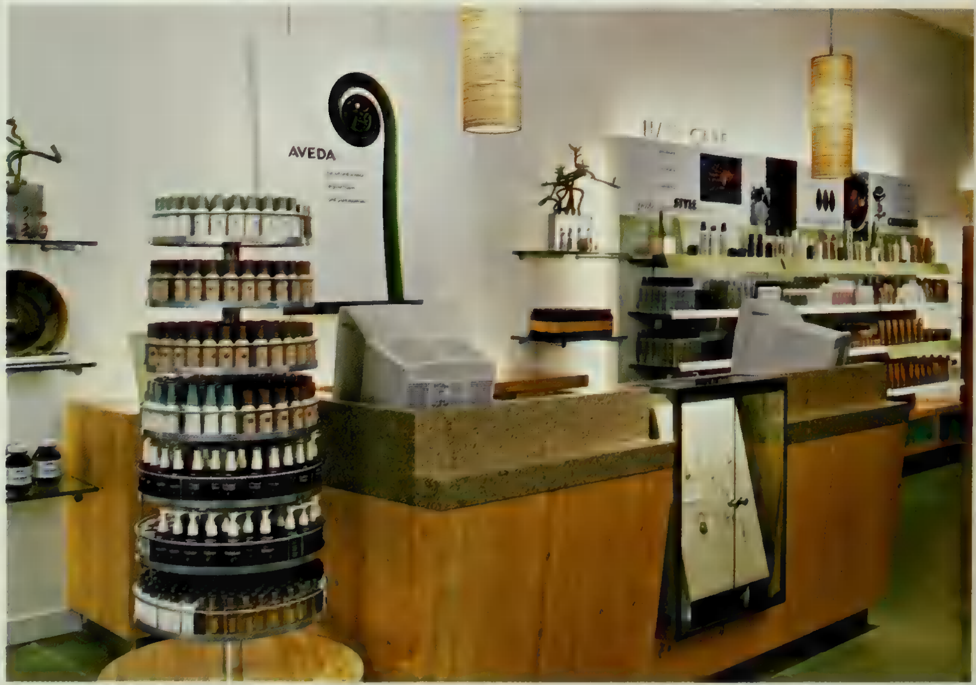
Working with Gensler architects to create design standards for a roll-out of 46 stores nation-wide, Monato devised lighting that supports the new spalike interior elements of light millwork, stone flooring, recycled glass mosaic tile, glass shelving, and freestanding waterfall walls.

"The architects requested lighting that was largely integrated within the architecture, and they particularly disliked the use of exposed track lighting," Monato recalls. "That fit well with our firm's design philosophy. We do not like to specify applied lighting unless it is particularly appropriate to the overall intent of the design."

To provide consistent ambient illumination throughout the Aveda stores, the design team created a series of freestanding sculptural elements that create bump-out displays along the perimeter walls. For each display unit, Lycra fabric is stretched over a frame of four metal oval rings staggered vertically, creating an amorphous illuminated tower approximately six feet tall. Two linear fluorescents concealed within each tower cast soft illumination upon nearby display shelves and product demonstration areas.

Two freestanding locations (shown here) demonstrate the





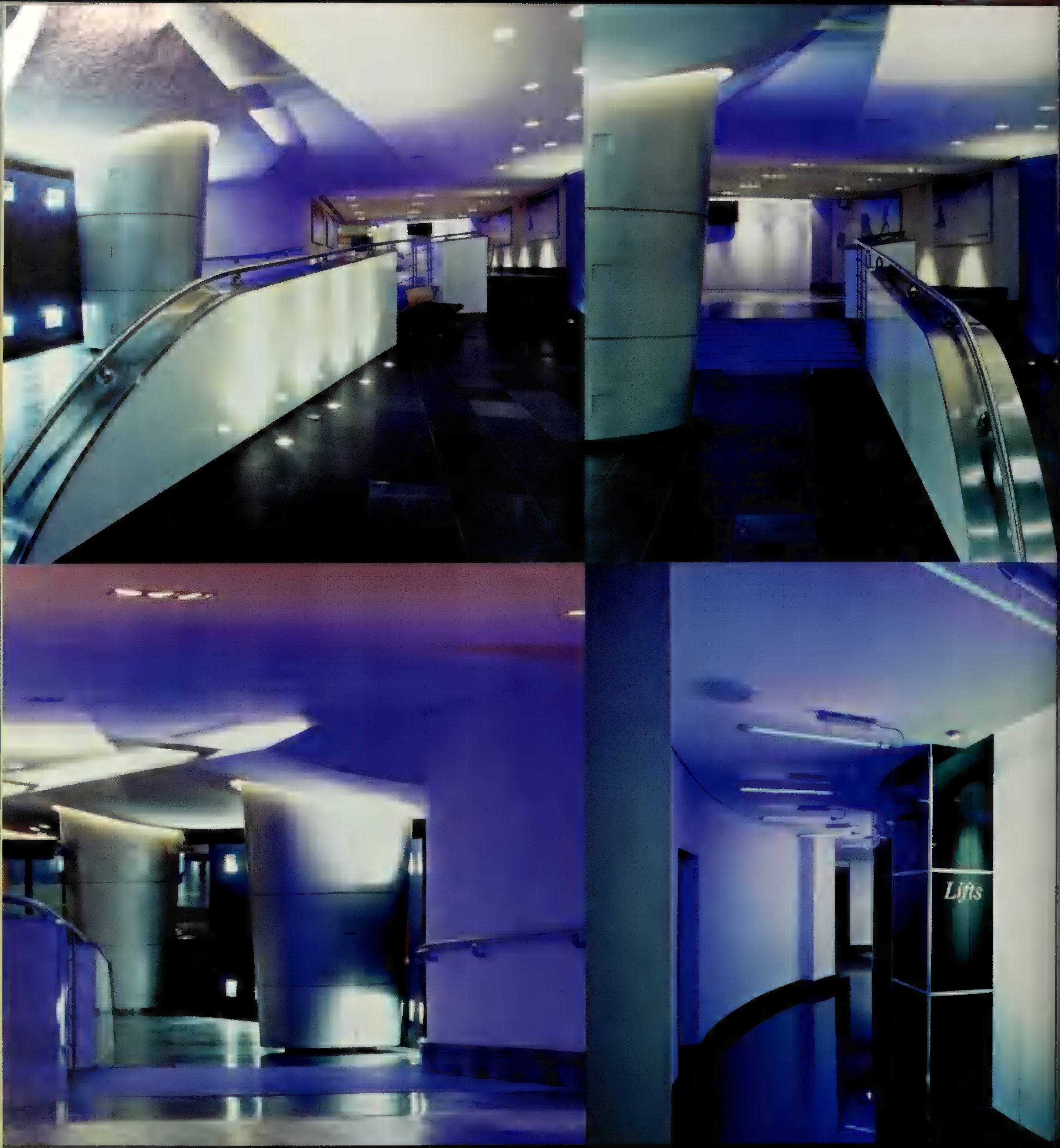
The curved glass corner facade of the Edina, Minn., store (top) creates a beacon of light on the mall. Custom pendants at the cash/wrap station (above) feature shades of pressed-grass paper. Backlighting helps accent products (left).

Introducing the third generation of the Universe Collection™ from AAL. A complete family of decorative, yet functional luminaires that transcend architectural styles past and present. The fixtures are scaled in three sizes with more forms, configurations and metal hood options to give you an expanded design palette.

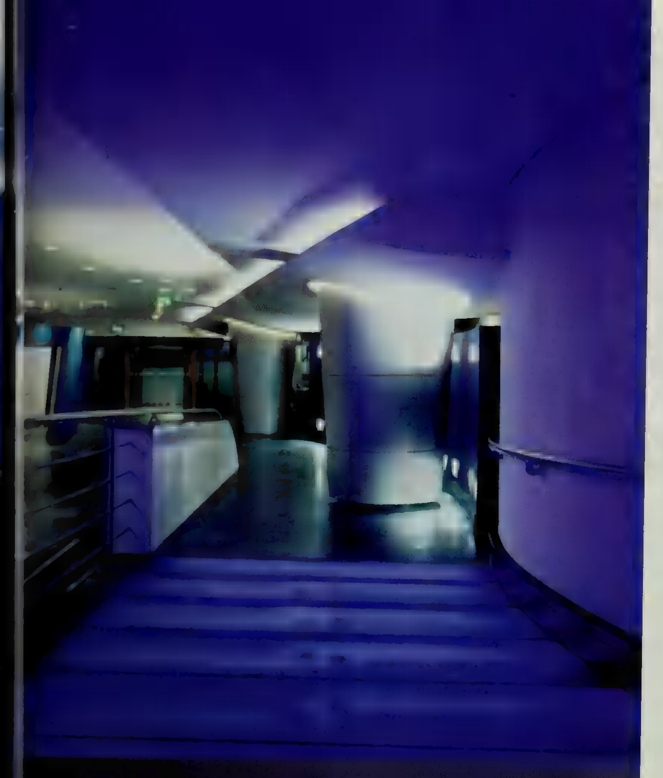
UNIVERSE
COLLECTION™

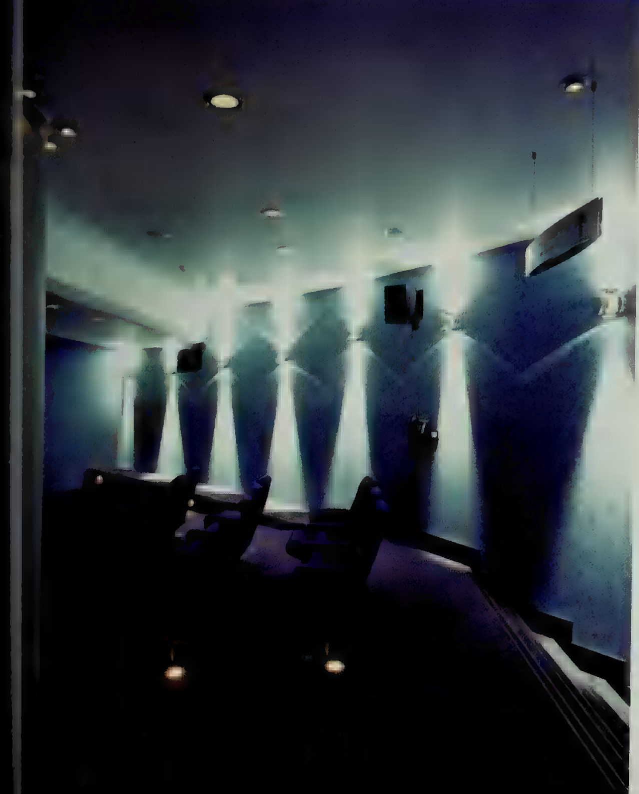
ARCHITECTURAL
AREA
LIGHTING

714.994.2700
fax: 714.994.0522
www.aal.net
CIRCLE 65 ON INQUIRY CARD



The lighting of the entry of the BT Tower is complex, so several views are shown here. A slot cut into the convex ceiling houses cold- cathode cove lighting used to orient visitors toward the auditorium and conference rooms beyond. Other slots cut into the ceiling around the piloti columns conceal low-voltage xenon lamp strips that provide a halo around the column tops, while square 18-watt compact fluorescent fixtures, recessed into the curved wall, wash the floor, ceiling, and columns with additional light. A glass bridge is uplit with fluorescent lamps, wrapped with blue gels, under the glass floor. Important circulation paths are uplit with low-voltage spots recessed into the floors and ceiling (top row and bottom left). The corridor that joins the auditorium with conference rooms (bottom center) is lit by a cold-cathode cornice light; recessed low-voltage fixtures fitted with MR16 lamps and adjusted to cast a scallop on one wall; and th futuristic K2 fixture, designed by





nce. The perimeter of the audito-
rim (bottom right) is defined by wall
onces incorporating pairs of low-
ltage QR111 lamps whose
nsformers have been remotely
unted. Aisles are marked by
essed uplights.

PHOTOGRAPHY: © ROB MOORE

British Telecom enters the 21st century with space sculpted in light and color by Light & Design

By Nayana Currimbhoy

The ground floor of the British Telecom Tower was designed to show off the company's technical prowess for the benefit of the firm's national and international clients. It consists of reception areas, meeting and conference rooms, a cybercafe, theater, and art gallery. The designer, the Diplock Partnership of London, used convex ceilings, curved walls, and changes in floor level to create subtly skewed perspectives. These are enhanced by the lighting, which defines and sculpts the irregular spaces and introduces layers of drama, using shadow and color. "The client wanted to convey the impression that theirs is a modern communications organization engaged in a business of the future," says lighting designer Lee Prince, a partner at Light & Design Associates.

The lighting in the entry is accomplished by layering indirect and direct sources. Indirect lighting in coves defines the separation of major planes in the ceiling and above the prominent wood-and-steel piloti columns. Curving wall planes are further modeled using adjustable low-voltage lighting recessed into the ceiling and floor at important circulation points, so that visitors walk through pools of light. A glass bridge in the entry area is illuminated from below by dimmable T5 fluorescents with blue color filters and unfiltered 4000K CRI T5 lamps. The glowing bridge casts an asymmetric arc of blue light on the adjacent wall and ceiling. A digitally programmable dimming system enables cross fading between the blue-filtered and unfiltered fluorescent lamps. "It's like walking through water," says Prince.

Elsewhere, fixtures left exposed were chosen —or invented— for their futuristic appearance, for example, the cold-blue lights that cantilever from the ceiling in the corridor between the auditorium and conference rooms. Prince designed this fixture and christened it the "K2"—a nod to the Gilbert Scott–designed "K1," the red English telephone booth which Prince admires. The light fixtures consist of "a single-ended lamp source with electronic gear," hints Prince; however, the nature of the technology is still his trade secret.

Designed and illuminated with flair, the space succeeds in creating a hard-edged, science-fiction film-set quality that is not typically seen in the lobby-and-corridor environment. ■

Nayana Currimbhoy is a freelance writer based in New York City and a frequent contributor to RECORD LIGHTING.

Project: *British Telecom Tower Customer Services Centre, London*
Interior Designer: *The Diplock Partnership*
Lighting Designer: *Light & Design Associates—Lee Prince, partner-in-charge*

Sources:
Downlights: *Targetti Sankey*
K2 custom lights: *Distributed in U.S. by Continental Lighting*
Indirect lighting: *Wila Lighting*
Theater lighting: *Erco*

THIS IS THE LIGHT THAT LIT THE LOUVRE

What architectural masterpiece do you need to light?

Now this revolutionary fixture is available in the US. Utilizing a Xenon 20,000 hour lamp, this tiny fixture virtually disappears from sight when mounted to the face of a building. No more hot spots, no more blinding flood lights. At last, you can highlight the true architectural detail of a building with the perfect amount of light.

Distributed in the USA by

LIGHT-PROJECT INTL INC®

105 Executive Drive #210
Sterling, VA 20166-9558
Phone (703) 471-6411
Fax (703) 471-0312

Visit our web page at http://www.lightproject.com

CIRCLE 52 ON INQUIRY CARD

Elegant lighting achieved for a foundation headquarters using a minimalist palette

y Nayana Currimbhoy

The Ewing and Marion Kauffmann Foundation headquarters in Kansas City, Mo., is a two-story courtyard building situated on the banks of a man-made lake. The philanthropic foundation acquired a vacant, flood-prone site in a residential area of the ity and transformed it into a park with pools, bridges, wetlands, and a mall island. The 139,000-square-foot building, designed by the Boston rm Kallmann McKinnell & Wood Architects (also responsible for the esign of the master plan for the 37-acre site), contains the foundation's ffices as well as conference and instructional spaces.

The mission of the foundation is to strengthen communities rough communication. As a reference to this idea, the building is orga-ized like a town. Office wings are laid out a grid of neighborhoods, with e circulation route serving as cross streets and avenues, all leading to a ntral town square that acts as the foundation's conference center. It is used r formal meetings, dinners, exhibitions, and informal break-out sessions; a double-height lobby and exhibition space support a variety of activities.

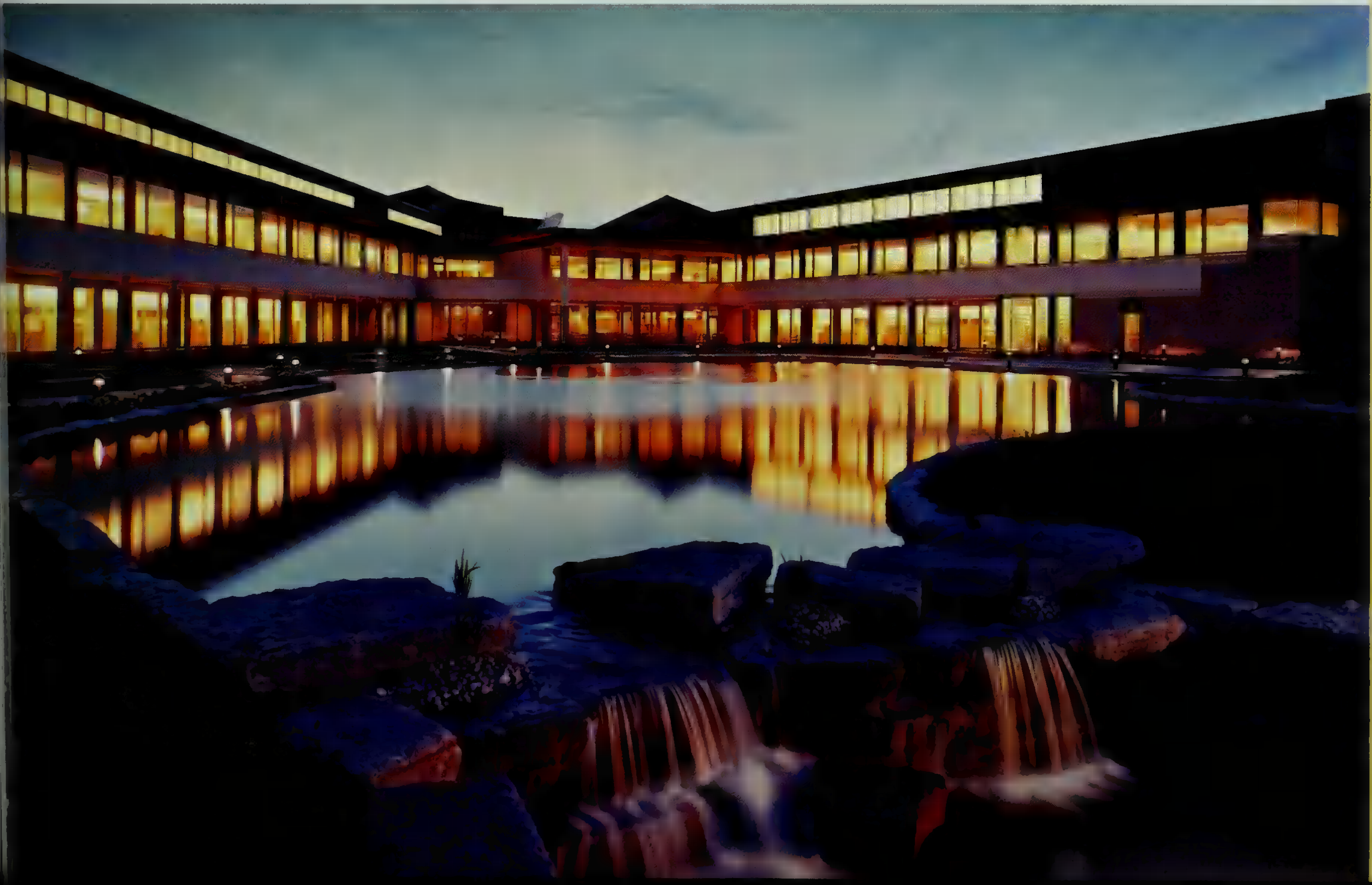
The building is designed to take advantage of its surrounding landscape. Daylight is brought indoors through layers of clerestories, skylights, and extensive perimeter glazing. The lighting, by Berg/Howland Associates, is mostly indirect and diffused, with downlights serving as decorative accents in the public spaces and as functional highlights in the meeting areas and classrooms. "The idea was to create pools of indirect light, which would supplement the daylight, and not draw attention to itself," says Jeffrey T. Berg, AIA. Three-thousand-degree Kelvin fluorescent lamps were used throughout the project.

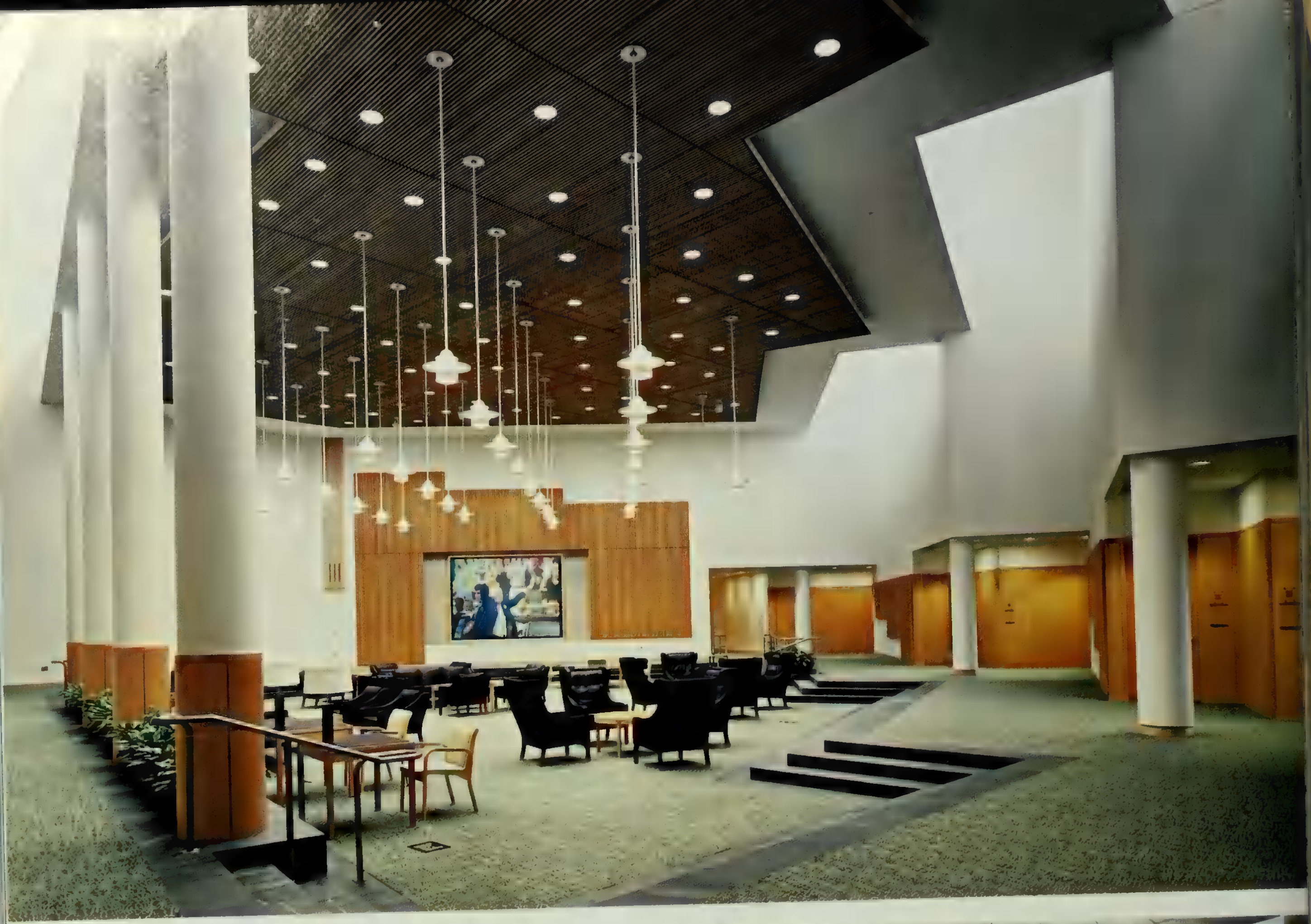
In the town square, two rows of fluorescent T8 lamps are concealed in ceiling soffits, while compact fluorescent downlights supply

---

Project: *Ewing and Marion Kauffmann Foundation Headquarters, Kansas City, Mo.*
Architects: *Kallmann McKinnell & Wood Architects*
Lighting Designer: *Berg/Howland Associates*
Electrical Engineer: *Cosentini Associates*

ayana Currimbhoy is a New York City-based freelance writer and frequent ntributor to RECORD LIGHTING.





additional ambient light. Decorative pendants suspended in the space provide supplementary light using 18-watt compact fluorescents, which create a second visual ceiling plane. Dimming ballasts give flexibility to the square, which also works as a meeting space and classroom. The two-story lobby, which links the town square with the office wing, is punctured by a row of round skylights. Coves behind each skylight contain 13-watt compact fluorescents mounted on flexible channels to provide additional light. Recessed 32-watt compact fluorescent downlights with decorative glass trim flank the lobby skylights, while a linear concealed cove, behind the pillars, contains two rows of T8 lamps.

In the classrooms and seminar rooms, T8 fluorescent pendant fixtures with perforated housings and parabolic reflectors are equipped with dimming ballasts; additional downlights and wall washers are lamped with 18-watt compact fluorescents; and 90-watt halogen lamps with PAR floods on tracks are used to place accent light on speakers. Motorized translucent and blackout shades can be used to change the amount of daylight admitted to the rooms as needed. The lighting is on a preset dimming system so the settings can be adjusted as the function of the rooms changes. ■

Sources

Linear fluorescent pendants: *Finelite*

Decorative pendants and downlights: *Poulsen*

Recessed downlights: *Omega, Prescolite*

Fluorescent troffers: *Columbia*

Linear fluorescent wall washers: *Neoray*

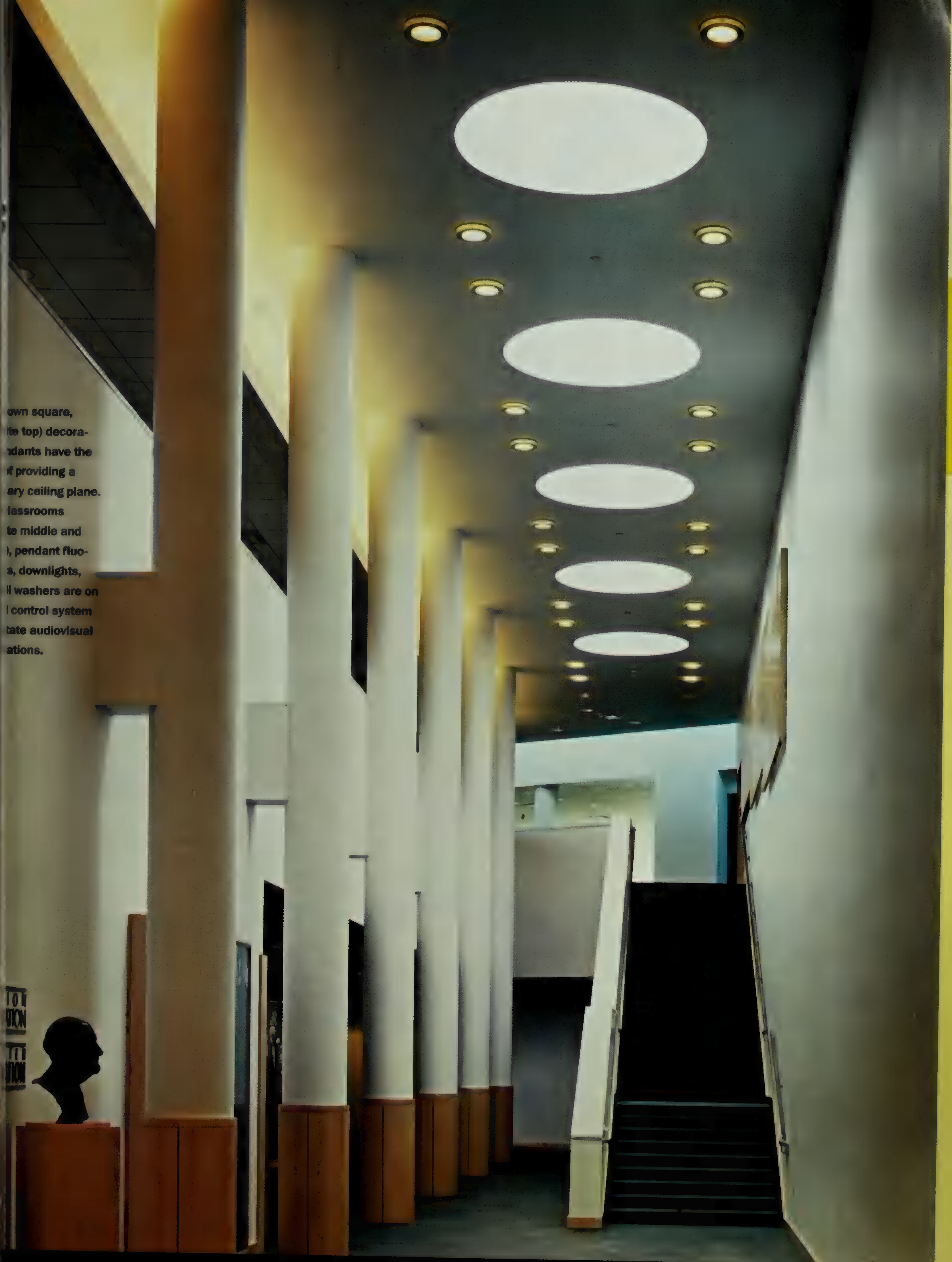
Undercabinet lights: *Daybrite*

Circular cove strips: *Tivoli*

Steplights: *McPhilben*

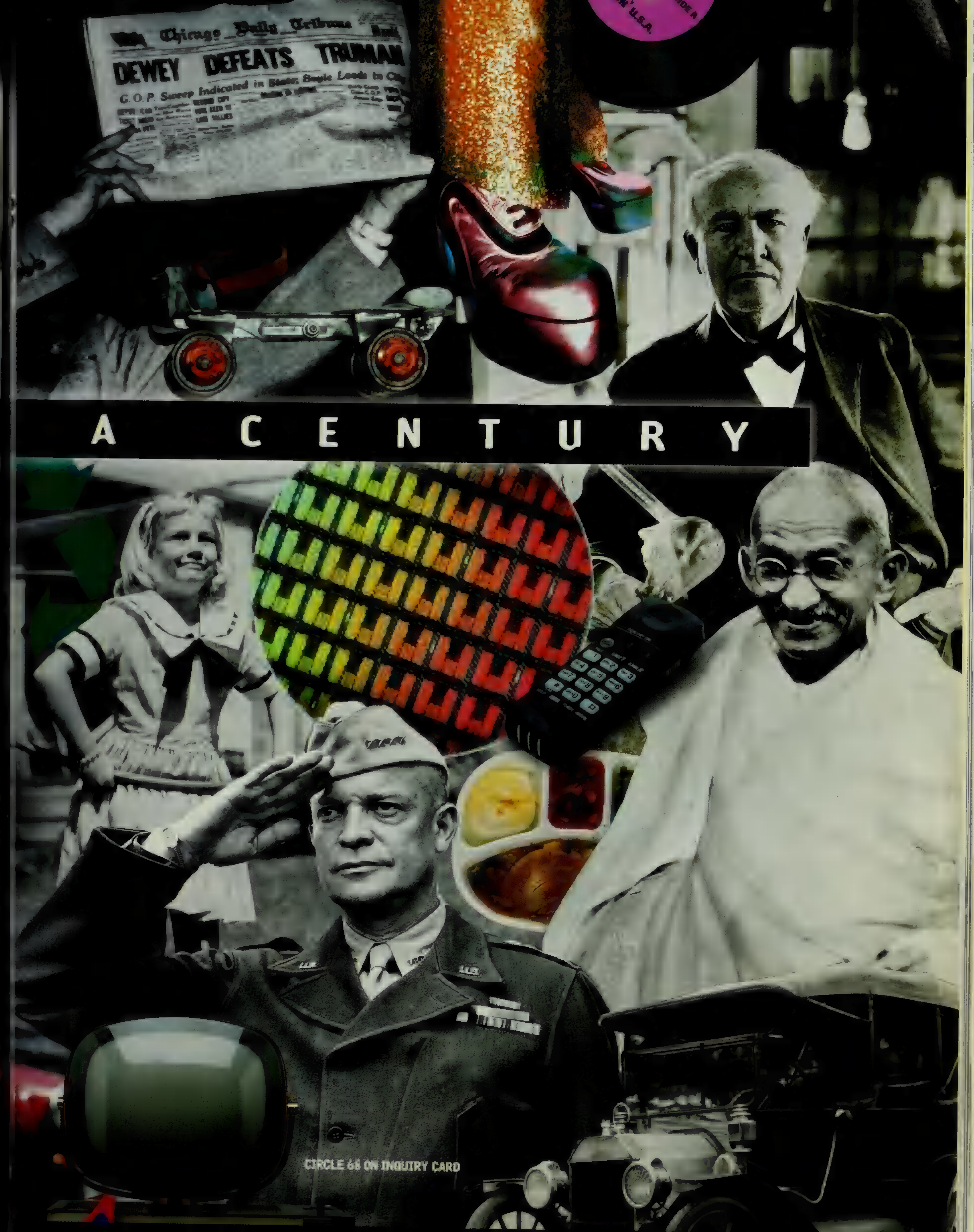
Track lighting: *LSI*

Signs: *Alkco*



own square,
ite top) decora-
ndants have the
f providing a
ary ceiling plane.
lassrooms
te middle and
), pendant fluo-
s, downlights,
ll washers are on
l control system
tate audiovisual
ations.

EVOLUTION

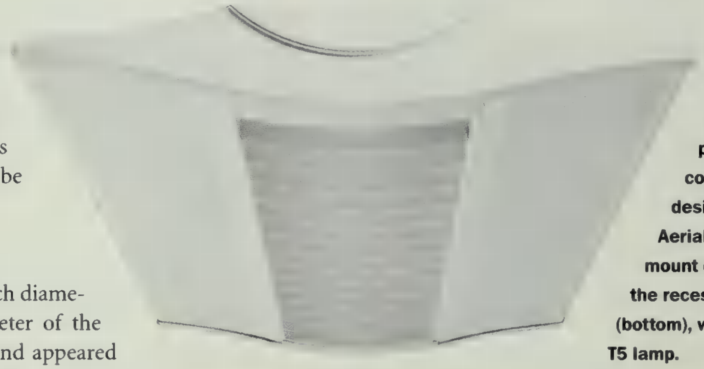

Chicago Daily Tribune
DEWEY DEFEATS TRUMAN
G.O.P. Sweep Indicated in State; Boyle Leads in City
A CENTURY
CIRCLE 68 ON INQUIRY CARD

All about the new T5 lamps and ballasts

MANUFACTURERS ARE DEVELOPING LOTS OF NEW PRODUCTS FOR THE T5, AND BETTING ON DESIGNER ACCEPTANCE. THE LAMPS AND BALLASTS ARE GREAT BUT STILL TOO EXPENSIVE FOR SOME TASTES.

By Lindsay Audin

The T5 fluorescent lamp/ballast combination offers many interesting and exciting possibilities for both fixture manufacturers and lighting designers. This column looks at the claims and hype so readers will be aware of both its virtues and pitfalls.



With its slim shape, the T5 lamp offers good—and practical—optical control. Among the new designs are Metalux's Aerial (left), a surface-mount direct/indirect and the recessed CircLet by Wila (bottom), which uses a circular T5 lamp.

The system

The linear T5 lamp is characterized by its slim ⅝-inch diameter glass tube—it is less than one-half the diameter of the 1½-inch diameter T12 lamps we grew up with—and appeared first, naturally, in Europe, where designers seem willing to try almost anything new when it comes to lighting. While initial versions had some end-of-lamp-life problems—for example, when lamps burned out, their contacts shorted, causing fixtures to emit smoke—but models of the lamps seem to have overcome such problems. Every lamp and ballast manufacturer of note now offers a line of T5 products, and the number of new fixtures shown at LightFair 2000 in New York this past May indicates that equipment manufacturers are betting the lamp will gain rapid acceptance among architects and lighting designers.

THE T5 LAMP IS CHARACTERIZED BY ITS 5/8-INCH DIAMETER GLASS TUBE.

The linear T5 lamp boasts a color-rendering index (CRI) of 85. T8s can be purchased with CRIs of roughly 75 for 700 series lamps; roughly 85 for the slightly more expensive 800 series lamps, or as high as 95 for specialty lamps, which are much higher in price. The T5 lamps boasts an average of 95 percent of its lumen output over its lifetime. Except for the GE Starcoat series—which claims 95 percent lumen maintenance—most T8s maintain about 80 to 85 percent of their lumens at the end of their standard 20,000 hour lives.

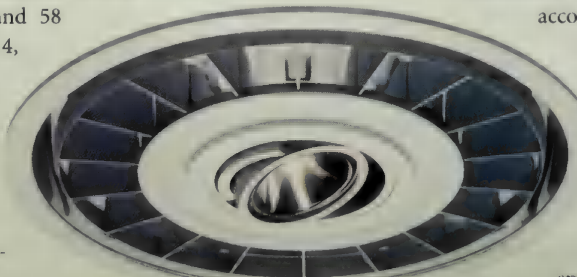
When combined with an electronic ballast, efficacies of 90 to 100 lumens per watt are possible. Standard output four-foot T5 lamps emit the same number of lumens as their T8 and T12 cousins, making them comparable to existing four-foot fluorescent lamps. A wide range of lengths exists—22, 34, 46, and 58 inches—in corresponding wattages of 14, 21, 28 and 35. High-output (HO) lamps are available in 24, 39, 54, and 80 watts, as are circular lamps.

Lindsay Audin is president of Energywiz, an energy and technology consulting firm (www.energywiz.com), and is a regular contributor to RECORD LIGHTING.

Major ballast manufacturers are supporting this new system with packages that take full advantage of microelectronics. The cross section of a Magnetek two-lamp T5 ballast, for example, is only 1¼ inches wide by ⅘ inch high. One should note that, unlike electronic ballasts for other fluorescent lamps, T5 ballasts vary in dimensions, depending on the number of lamps they serve and even on the manufacturer. Thus, finding proper replacements for ballasts requires some research.

The technical specs for these ballast are generally excellent. Most have total harmonic distortion of 15 percent or less, meaning that they will not create imbalances on a building's electrical lines, which could result in damage to its wiring or transformers, or disrupt equipment that uses power lines to carry control signals. Their power factor is above .95, indicating the devices are very efficient users of electricity. All carry Class A sound ratings, so they are silent for all practical purposes, and the ballasts have advanced circuitry that automatically shuts them off when a lamp expires. A typical T5's ballast factor, the measure of a ballast-lamp system in terms of brightness and electrical efficiency, is an outstanding 1.0. Lutron, MaxLite, and others also offer dimmable units for both the T5 and T5 HO lamp.

Some ballast manufacturers have, however, gone beyond even those admirable specs. Some offer single units that operate on a wide range of voltages—110 to 305 volts, for example—as well as the dual 120/277 voltage configuration typically found in buildings. Poke-in connectors make wiring easy, and some units can accommodate a range of lamp wattages and have dual grounding because they use metal, rather than plastic, casings.



Not your father's fluorescent

Designers should keep in mind that there are subtle differences between T5 lamps and those they are accustomed to using. For example, the efficacy rating of a specific fluorescent light source depends on

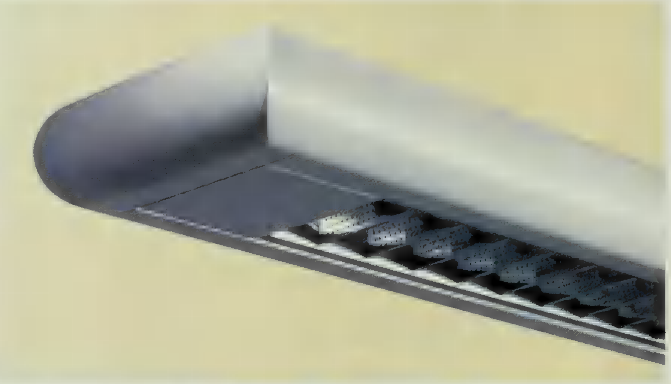
Introducing The Ultimate Architectural Downlight

What a century it was! Mankind took its first flight, stepped onto the moon and surfed into cyberspace. Gandhi freed India without firing a shot and The Beatles proclaimed "All You Need Is Love." Now, Lightolier illuminates the highs and lows of an incredible century with Calculite EVOLUTION, the next generation of architectural downlighting. Notice the smooth uniform illumination, the absence of distracting glare, the scallop-free presentation—superior performance in every way! To see this history-making downlight for yourself, visit EVOLUTION at www.lightolier.com or contact your local Lightolier representative.

Calculite®
Evolution™

CIRCLE 69 ON INQUIRY CARD

LIGHTOLIER®



A wide range of new T5 designs is available: The Orea from Zumtobel Staff (top), LedaLite's Minuet (above), Osram Sylvania's Pentron T5 lamps and ballasts (right), and Precision Architectural Lighting's T5 cove lamp (below).

keeping a lamp and fixture at a specific temperature: If the temperature deviates, their output will be reduced. The rated operating temperatures for T8, T10, and T12 systems is 77 degrees Fahrenheit, even though these systems seldom run this cool and have lower lumen output as a result. T5 systems are rated at a more realistic 95 degrees Fahrenheit. This higher design temperature is advantageous because manufacturers are using these compact lamps to create smaller fixtures with less surface area to diffuse heat. Thanks to the higher temperature rating of these lamps, few lumens, if any, are lost to heat. On the other hand, pendant-mounted T5 fixtures may have their light output reduced by conditioned air.

A boon to new fixture design

Aside from its improved lighting quality, variety, and efficiency, the major benefit of this new source comes from the photometric improvements possible when used in a properly designed fixture. The closer a light source comes to being an infinitely small point or infinitely thin line, the greater the ability of an optical system to control the source's directional output. Reflective surfaces can be narrower, distribution is more precise, and fixtures can be made smaller without losing these benefits. And optical system designers can now do things with reflectors and lenses, such as bouncing light upward and horizontally across the ceiling plane, which were previously less efficient. The HO lamp is so bright it may be possible to use only one fixture where two were required before.

T5 BALLASTS COST AT LEAST TWICE AS T8S, AND DON'T EVEN ASK ABOUT LAMP PRICES. COSTS WILL DROP, BUT SLOWLY.

The inevitable downsides

They're really, really bright. Just a quick glance at a bare 5,000-lumen T5 HO lamp leaves a noticeable afterimage in one's eyes. The potential for glare, especially in computer screens, must therefore be carefully considered. One solution is to design rooms where the lamps can never be seen, using coves, indirect pendants, or deep-cell parabolics.

Shorter lamp life. While some ballast manufacturers say their products extend lamp life, so far there is no track record to support these claims. Rated lifetime on the T5 lamp is 20 percent shorter (16,000 instead of 20,000 hours) than for the T8/T12 system.

Cost. Like all new high-tech items, T5 lamps and ballasts are not cheap. T5 ballasts cost at least twice as much as T8 units, and don't even ask about lamp prices. These costs will drop, but slowly. Lamp disposal is also a concern. Few, if any, manufacturers are making a product that can go directly to a landfill. So if you're going to be using T5s soon, count on hiring a lamp disposal company in a few years.

Availability. It is limited for some products. Even though they appear in catalogues, products like the 120-volt dimmable T5 HO ballast are as yet in short supply, although other ballast models seem to be readily available. Even product literature sometimes proves hard to secure. Efforts to get spec sheets on recently promoted fixtures resulted in long delays or answers of "we don't have any" from several manufacturers.

Finding replacement parts in a hurry. Something always breaks, usually during construction, and it may be difficult to replace. Several large electrical vendors interviewed were not yet aware of the linear T5 lamp and ballast, so obviously they don't stock them. Until T5s are installed in many buildings, getting sockets (which are, of course, a different size than for T8 and T12 lamps), will take time. But, these are just growing pains. As always, fixture specifiers, lighting designers, and architects will likely find themselves riding up over the learning curve with this new technology. ■

FINALLY

GALVANIZED FIXTURES

o find out more go to:

WWW.PRULITE.COM

When your design is something special your lighting fixtures should be too. That's the driving force behind our newest offering of indirect and direct/indirect luminaires from Prudential Lighting.

Offering finishes like large pattern galvanized steel and deep brushed stainless steel gives designers a new found freedom in lighting.

Prudential
Lighting

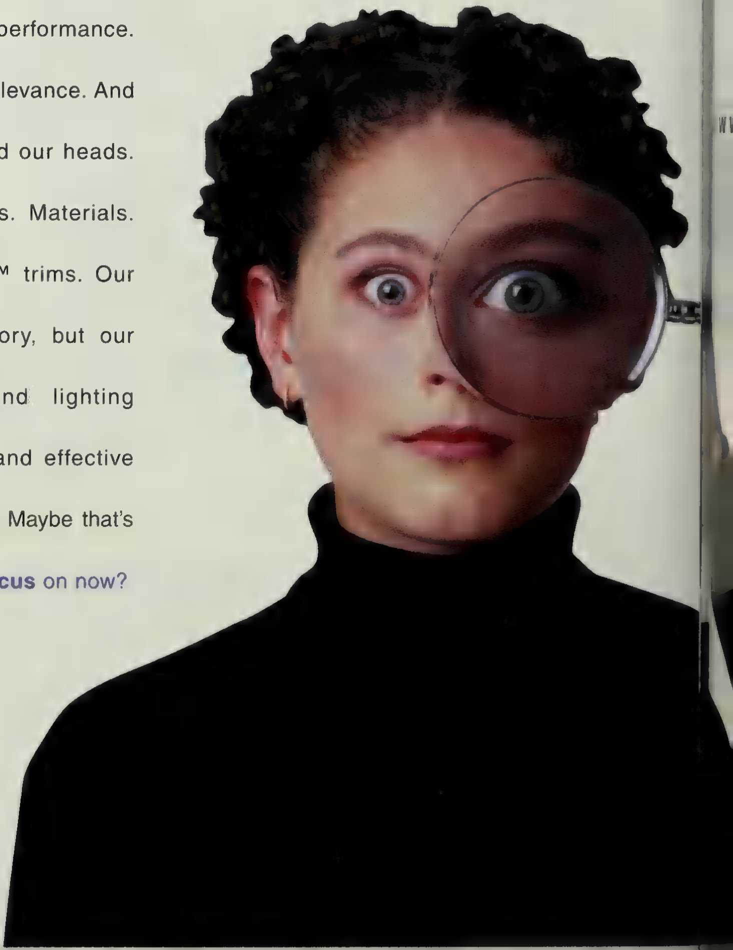
CIRCLE 70 ON INQUIRY CARD

1737 East 22nd Street · Los Angeles, CA 90058-0408 · 213.746.0360 fax: 213.746.8838

Prescolite

A NEW QUALITY OF LIGHT

YOU like 'em? You should. You asked us to build them. You were looking for beauty. Sophistication. Style. And simplicity. You wanted quality. Easy maintenance. High durability. And exceptional performance. You asked us to focus on color. Accents. And architectural relevance. And you wanted a low price. We **love** a challenge. We scratched our heads. Searched for new technologies. Manufacturing processes. Materials. And designs. The result: our new, innovative Lite Deco™ trims. Our hard work is paying off. Not just our work at the factory, but our collaborative efforts with top interior designers and lighting professionals to create the most architecturally relevant and effective lighting solutions possible. *Really* focusing on your needs. Maybe that's the most important innovation of all. So, what do you want to **focus** on now?



TRUSTING Y

TRUSTIN

Introducing Lite Deco™. Essential architectural trims for Lite Box® recessed downlights. This offering is truly unique because it is comprised of seven distinct designs with a large selection of reflector and lamp choices, finish options, and a wide variety of beautiful, decorative elements from which to choose. What's more, all of this design freedom is offered at an uncommonly low price. Visit our website to learn more about our new vision of decorative downlighting.

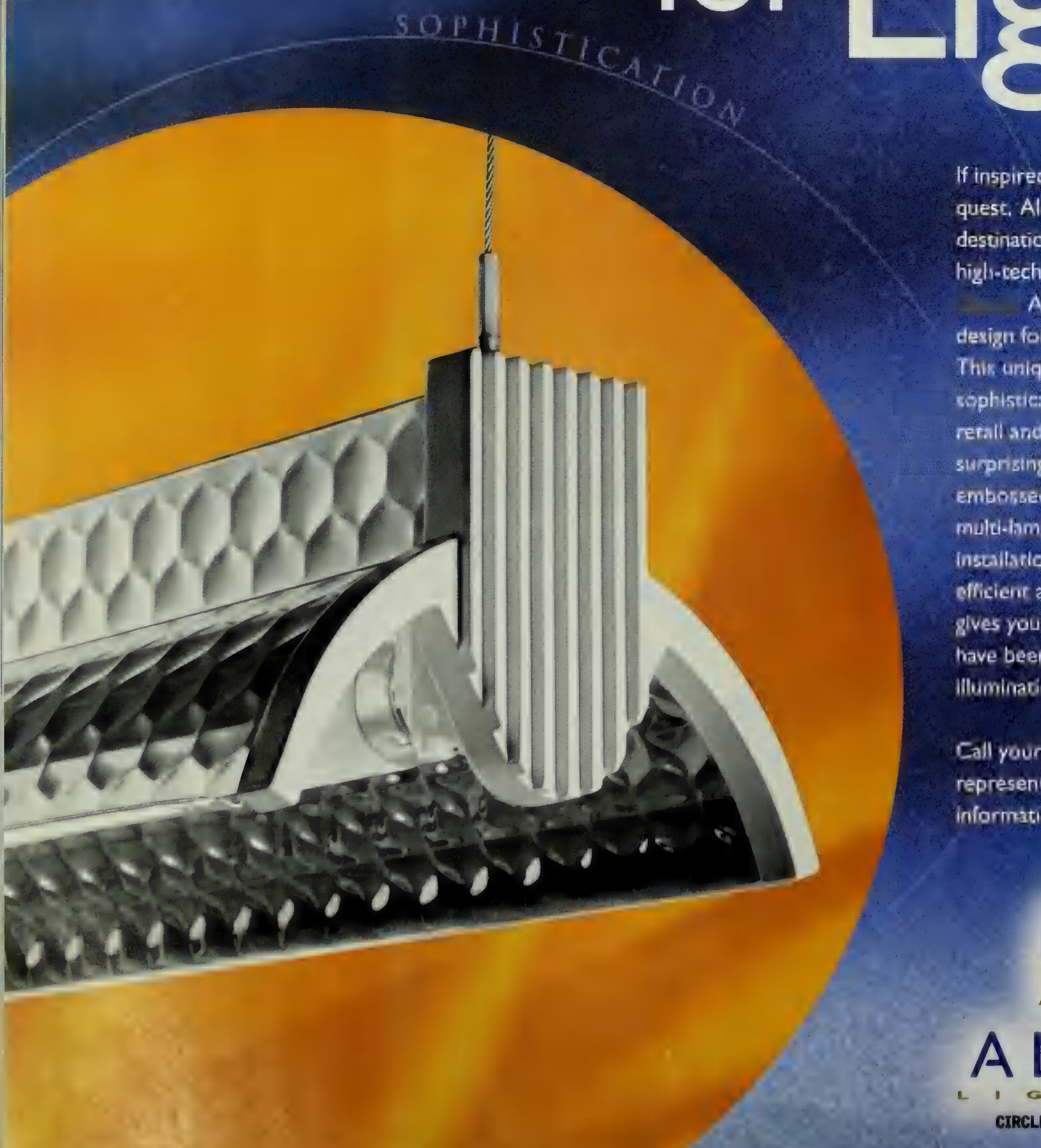
www.prescolite.com

UR VISION

OUR VISION

CIRCLE 71 ON INQUIRY CARD

Quest for Light



If inspired lighting design is your quest, Alera Lighting is your destination. Our passion to create high-tech lighting is realized in Quest. Alera Lighting's latest design for high end applications. This unique product adds sophisticated lighting style to retail and lofty office space, with surprising economy. Anodized, embossed aluminum, single and multi-lamp capacity and innovative installation brings you lighting as efficient as it is beautiful. Quest gives your project the drama you have been searching for. Inspired illumination from Alera Lighting.

Call your Alera Lighting representative for more information.

ALERA
LIGHTING™

CIRCLE 72 ON INQUIRY CARD

ALERA LIGHTING · 3808 NORTH SULLIVAN · SPOKANE, WA 99216 · 509.921.8300 · FAX 509.921.8360

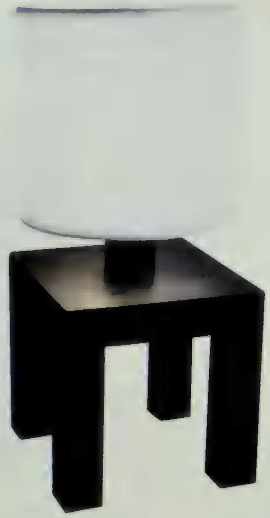
LIGHTING CORPORATION OF AMERICA

Lighting Briefs

At the Montreal International Interior Design Show (SIDIM), held in May, lights with a sculptural theme had a strong presence. The fixtures below demonstrate the creativity of the region. *Rita F. Catinella*

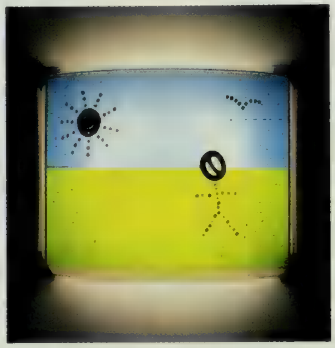
Good bedside manner

be used as a side or bed table, the lice and Lucy lamps from Cedric portes Design were created by hand in ontreal. They are made of solid Merisier ood with a natural varnish pigmented rk or light brown. The lamp shade is ade of washable vinyl or laminated e paper with natural pigments. The ble lamps can be used in a variety of teriors and are available in two sizes. 14/521-9643. Cedric Sportes Design, ontreal. **CIRCLE 200**



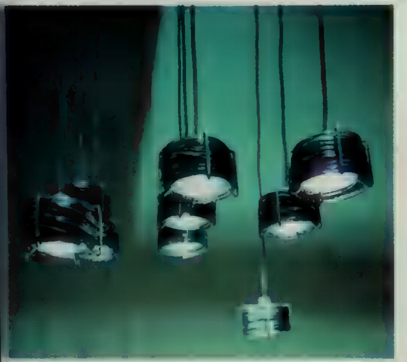
► Refrigerator art

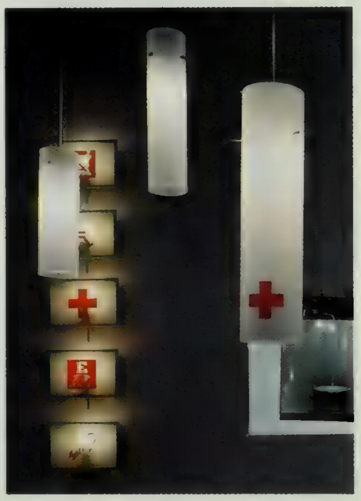
This Dominique at the Beach fixture, from Lumid's Photo Album series of Murano glass sconces, recalls a child's finger painting. It includes Murano's renowned Millefiori cut rods and is fused by Lumid in Montreal. Designed by Dominique Alary, the sconce uses GE 2D Energy Saving Lamps (16 to 38 watts) and is ADA and UL approved. 514/524-2409. Lumid, Montreal. **CIRCLE 201**



Spools of light

rzani, part of a micro-exhibition of Italian manufacturers at the show, was tablished almost 30 years ago as a laboratory for the design of lighted objects with materials such as wrought iron, wood, and Venetian glass. The wires used to create the Bobino pendant shown here resemble spools of thread. 39/055-722021. Terzani spa, Florence, Italy. **CIRCLE 202**



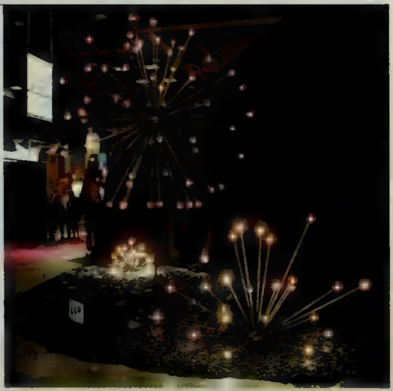


◄ Good dose of lighting

Au Courant's award-winning booth at SIDIM displayed pendants and sconces in a sterile, red-and-white hospital-themed booth to demonstrate the versatility of its lamp designs. To complete the mood, booth attendees were cloaked in white lab coats; black-and-white transparencies of the product line were clipped to lightboards like X rays; and the giveaways were realistic medicine bottles filled with candy. 514/733-2050. Au Courant Luminaires, Montreal. **CIRCLE 203**

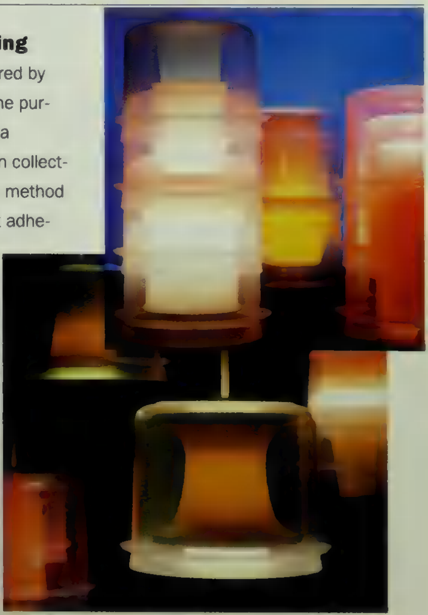
Lunar landing

Starburst lamp, designed George Makris, was disyed at SEDIM in an eerie ol of black-and-white atin to create the illusion he cold, dark surface of a net illuminated by distant rs. The low-voltage light s 48 arms (each with one -watt bulb) and a diameter 3½ feet; it features a solid ss construction with a d-brushed nickel finish. The manufacturer, S/E/G, has created custom lights for Canada, Walt Disney World, the Canadian government, and Nike. All lighting sys-s comply with UL standards. 514/762-9412. S/E/G, Montreal. **CIRCLE 204**



► Well-preserved lighting

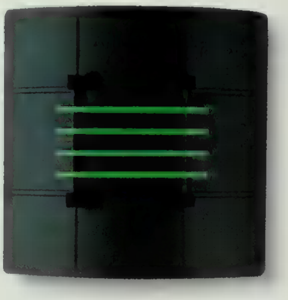
Antoine Laverdière was so inspired by the vintage Tupperware pieces he purchased for less than a dollar at a secondhand store that he began collecting the pieces and developing a method for fitting them together without adhesives or hardware. The result is a new limited-edition collection of handmade table lamps (above) and pendant lamps (below) that use recycled containers from the 1950s, '60s and '70s. 514/815-3318. Polygone, Montreal. **CIRCLE 205**



Lighting Briefs

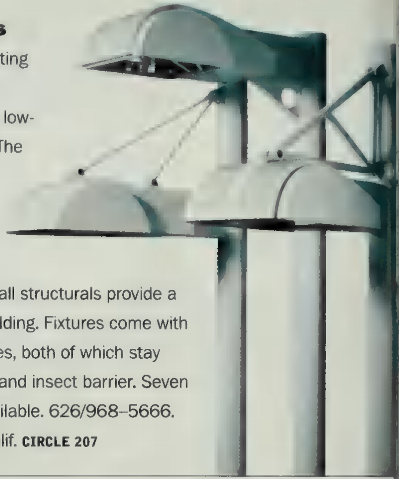
► Accessories on the exterior

With a wide range of accessories, the eSconce from Architectural Area Lighting makes a smooth transition from exterior to interior. In its standard form, the light has a luminous glass square on the front face. Full overlay panels, edge-lit acrylic ribs, and gel color filters are options for the fixture. A lightly diffused lens that reduces brightness is also available. 714/994–2700. Architectural Area Lighting, La Mirada, Calif. **CIRCLE 206**



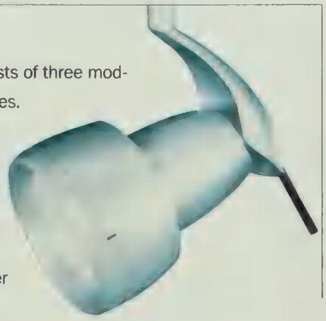
► Exterior arrangements

Structural lighting from Kim Lighting combines optics, materials, and ergonomics to create glare-free, low-maintenance lighting solutions. The large structural is available in H.I.D. lamp modes to 400 watts, and the small structural is available to 175 watts. When used together, the large and small structurals provide a transition from parking lot to building. Fixtures come with the option of convex or flat lenses, both of which stay sealed, creating a moisture, air, and insect barrier. Seven mounting arrangements are available. 626/968–5666. Kim Lighting, City of Industry, Calif. **CIRCLE 207**



► Rotating and swiveling air

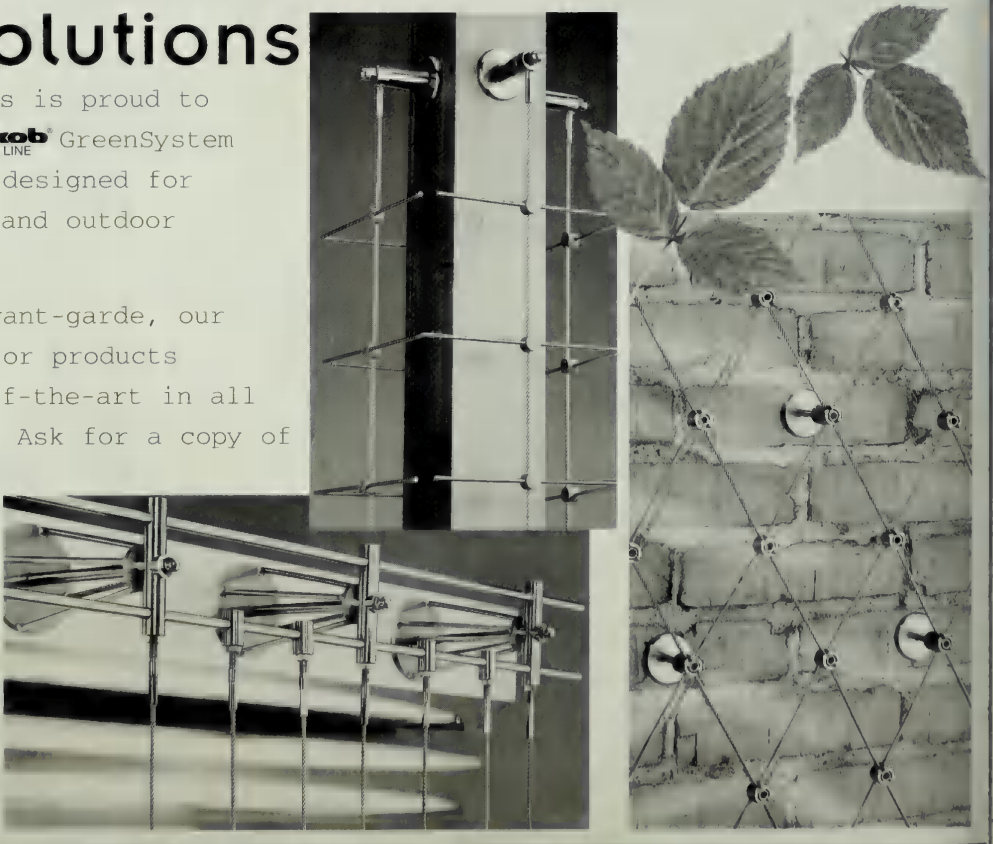
The new AIR collection from FLOS USA consists of three models in different sizes, light sources, and finishes. Designed to be installed on track, ceiling, or walls, the AIR-3 is housed in die-cast aluminum and rotates 355 degrees with a 110-degree aiming adjustment. Aiming is achieved by turning the wand located behind the trackhead. A swivel UV filter holder is incorporated in the front cone assembly. Available in white, black, and silver finishes. 800/939–3567. FLOS USA. Huntington Station, N.Y. **CIRCLE 208**



◄ Paint with light

USHIO introduces a 400-watt line of colored metal halide lamps. The lamps feature deep color saturation, eliminating the need for color filters or gels. Applications include stage effects, themed environments, building facades, fountains, shop windows, and landscape lighting. 714/236–8600. USHIO America, Cypress, Calif. **CIRCLE 209**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Inf



Green Solutions

DecorCable Innovations is proud to introduce the new Jakob INOX LINE GreenSystem that is specifically designed for vertical plantscapes and outdoor greening projects.

Whether classic or avant-garde, our wire rope and connector products represent the state-of-the-art in all architectural styles. Ask for a copy of the Jakob INOX LINE G catalog.

DÉCOR CABLE INNOVATIONS

[illegible]able Innovations, LLC
[illegible] Randolph St.
[illegible]ago, IL 60661
[illegible].474.1100
[illegible]4.6271
[illegible]
[illegible]
[illegible]

CIRCLE 73 ON INQUIRY CARD

Lighting Briefs

Glass head, wooden stem

ew from Leucos Lighting is a collection ' pendants; downlights; ceiling, wall, table, and floor lamps. Shown is the Sphera T, a table lamp with a satin white blown-glass and mahogany base and stem. The light source is a 1x60- or 1x100-watt incandescent, available with a nickel-plated matte metal frame or polished chrome base and stem. Also in the collection is Drop, a semi-recessed downlight. The low-voltage (1x50-watt MR16) fixture provides downward light through a poured-glass diffuser. The Drop downlight is available in clear or satin white glass trim. The lighting collection was created by five designers and associates, providing a variety of looks. 732/225–0010. Leucos USA, Edison, N.J. **CIRCLE 210**

► Window of light

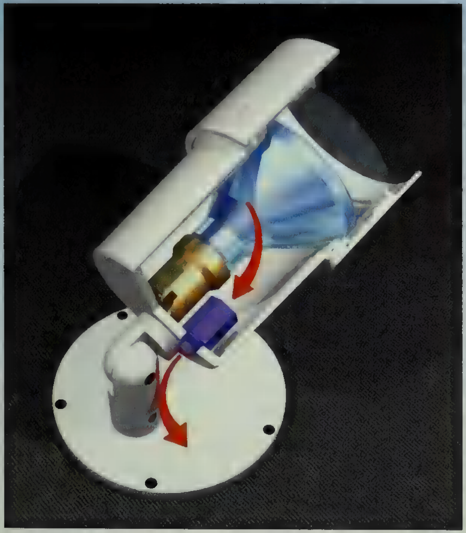
The sweeping S curve of the Finestra-Esso wall bracket by Boyd Lighting provides a window of light for commercial and residential interiors. The wall bracket features a white pearl diffuser that provides an evenly illuminated glowing panel. The etched aluminum frame is available in satin aluminum and anodized bronze finishes. The light source is available in incandescent or fluorescent and is ADA compliant. 415/778–4300. Boyd Lighting Co., San Francisco. **CIRCLE 211**

◄ Tanks for the memories

Taking inspiration from the water towers of the New York skyline, Lightank, from New York Works, becomes a container of light that glows through wood veneer. Designed by Alessandra Dini, Lightank shines through its base to the surface below. Lightank is created from various materials, including aluminum, stainless steel, plywood, wood veneer, and polycarbonate. 212/206–0642. New York Works. New York City. **CIRCLE 212**

r more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

The ACV™ Valve System
(patent pending)



The ACV™ Valve System (Anti-Condensation Valve) utilized in B-K Lighting's PAR30/PAR38 fixtures expels moisture-laden air from the hermetically sealed optical compartment, creating an internal vacuum and eliminating the possibility of condensation. Leading industry organizations have awarded the ACV™ Valve System for it's unique and significant advancement to the art and science of lighting. Contact us today for more information.

PROGRESS REPORT COMMITTEE IES NEW PRODUCT ADVANCEMENT

ADEX PLATINUM

BEST OF SHOW

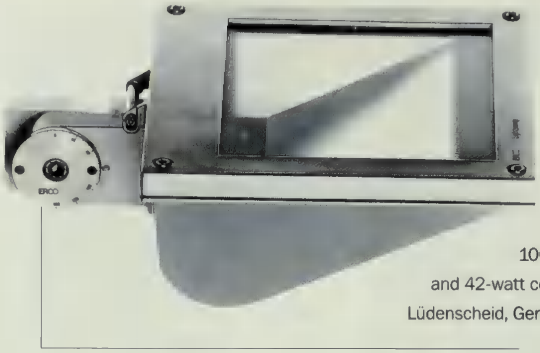
LIGHTFAIR Exterior Products Innovator Award

B-K LIGHTING... the number one choice in specification-grade, outdoor architectural lighting.

7595 N. Del Mar Avenue • Fresno, CA 93711 • (559) 438-5800 Fax: (559) 438-5900 • email: info@bklighting.com • web: www.bklighting.com

CIRCLE 74 ON INQUIRY CARD

Lighting Briefs



◄ Splash-proof floods

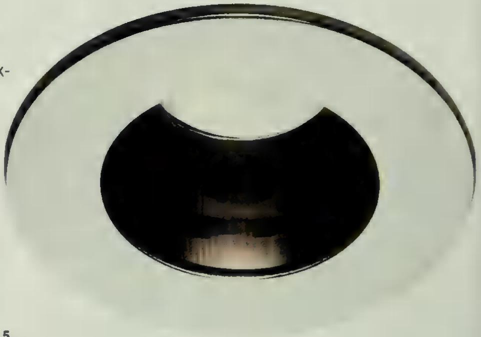
The new Lightscoop floodlight from ERCO is available in three sizes and as a compact wall washer. The adjustable hinge and the wall bracket allow a variety of mounting options. The aluminum housing unit is dust-proof and splash-proof, making it possible to employ Lightscoop in difficult environmental conditions, such as outside or in damp premises. Light sources available are 150- to 1000-watt tungsten halogen lamps, 70-watt metal halide lamps, and 42-watt compact fluorescent lamps. 49/2351–551–345. ERCO, Lüdenscheid, Germany. **CIRCLE 214**

▼ Lite lights

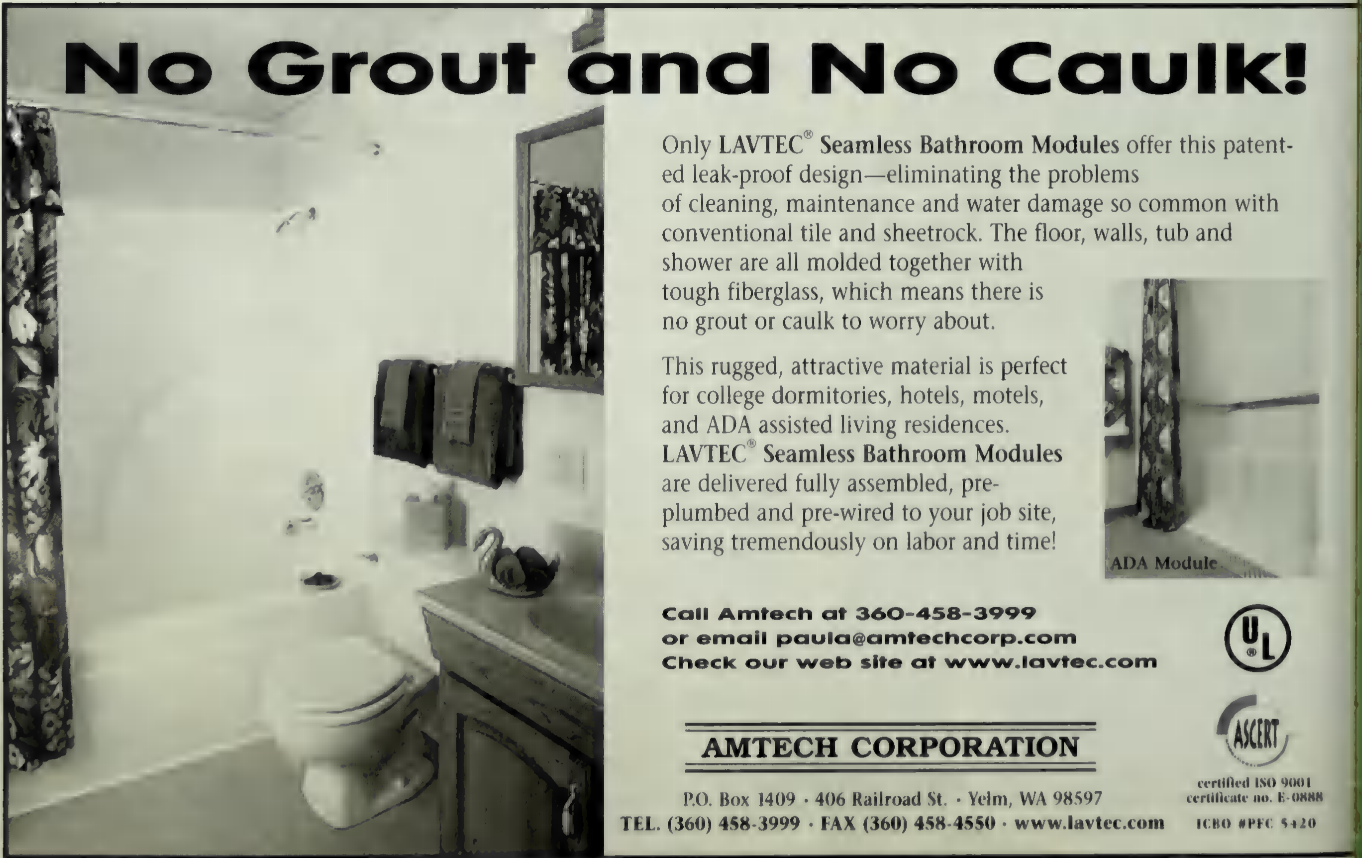
New high-pressure sodium lamps—the Sylvania Lumalux/Eco, Lumalux Plus/Eco, and the Lumalux Mercury Free/Eco—are interchangeable and have lead-free bases and glass. These components make the lamps lighter and easier to manufacture and dispose. The lamps eliminate the end-of-life cycling characteristics of standard HPS lamps. The line passes the federal TCLP guidelines. 978/777–1900. Osram Sylvania, Danvers, Mass. **CIRCLE 213**

► Lighting down the line

Lucifer Lighting Company introduces Basso, its first line voltage downlight with the same small profile as Lucifer's low-voltage fixtures. Four different models are available: fixed, 45-degree adjustable from vertical, and two alternate models for irregular ceiling surfaces. With an aperture slightly over three inches and trim profile less than half an inch thick, Basso's trim is almost invisible against the ceiling plane. The aluminum conical reflector is available in specular aluminum and black alzak. Optional-effects devices include clear, frosted, or spread glass lenses, diffusion lenses, and honeycomb louvers. 210/227-7329. Lucifer Lighting Company, San Antonio. **CIRCLE 215**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Inf



No Grout and No Caulk!

Only LAVTEC® Seamless Bathroom Modules offer this patented leak-proof design—eliminating the problems of cleaning, maintenance and water damage so common with conventional tile and sheetrock. The floor, walls, tub and shower are all molded together with tough fiberglass, which means there is no grout or caulk to worry about.

This rugged, attractive material is perfect for college dormitories, hotels, motels, and ADA assisted living residences. **LAVTEC® Seamless Bathroom Modules** are delivered fully assembled, pre-plumbed and pre-wired to your job site, saving tremendously on labor and time!

ADA Module

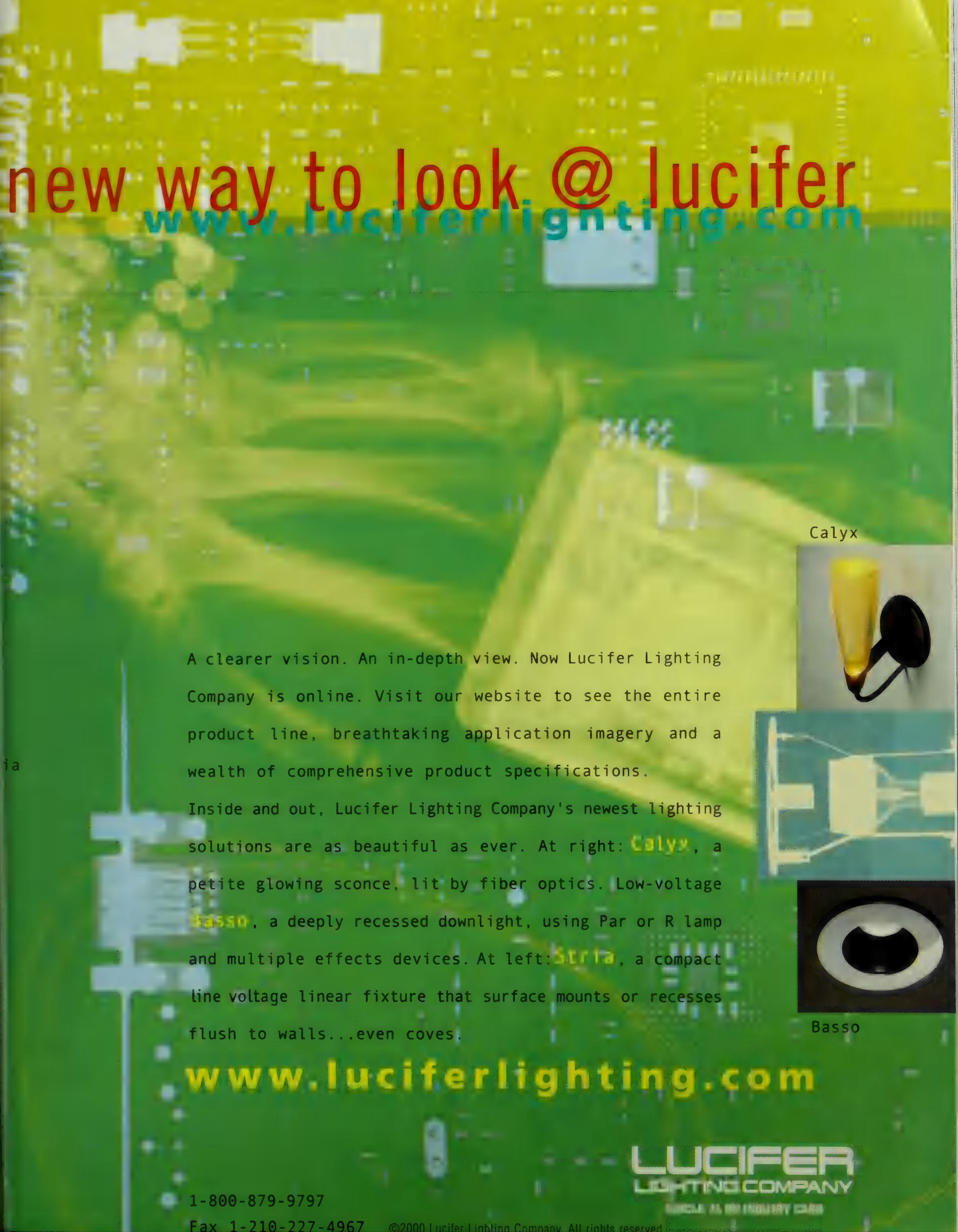
Call Amtech at 360-458-3999
or email paula@amtechcorp.com
Check our web site at www.lavtec.com

AMTECH CORPORATION

P.O. Box 1409 · 406 Railroad St. · Yelm, WA 98597
TEL. (360) 458-3999 · FAX (360) 458-4550 · www.lavtec.com

certified ISO 9001
certificate no. E-0888
ICBO #PFC 5420

CIRCLE 75 ON INQUIRY CARD



new way to look @ lucifer

www.luciferlighting.com

A clearer vision. An in-depth view. Now Lucifer Lighting Company is online. Visit our website to see the entire product line, breathtaking application imagery and a wealth of comprehensive product specifications.

Inside and out, Lucifer Lighting Company's newest lighting solutions are as beautiful as ever. At right: **Calyx**, a petite glowing sconce, lit by fiber optics. Low-voltage **Basso**, a deeply recessed downlight, using Par or R lamp and multiple effects devices. At left: **Stria**, a compact line voltage linear fixture that surface mounts or recesses flush to walls...even coves.

www.luciferlighting.com

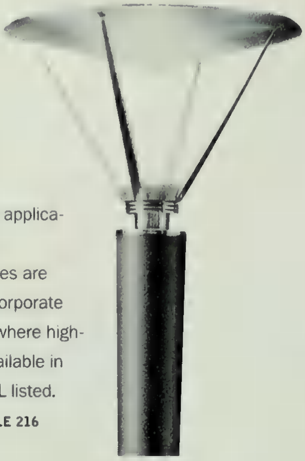
LUCIFER
LIGHTING COMPANY

CIRCLE 76 ON INQUIRY CARD

1-800-879-9797
Fax 1-210-227-4967

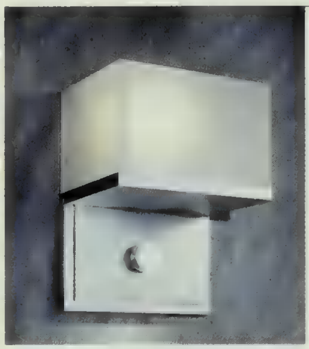
©2000 Lucifer Lighting Company. All rights reserved

Lighting Briefs



▸ Pole-mounted lighting

For a range of commercial or landscape lighting applications, Hess America introduces Amalfi wall- and pole-mounted fixtures and bollards. Amalfi fixtures are designed for pathways or perimeters of parks, corporate grounds, upscale retail sites, and other spaces where high-lighting is required. The pole-mounted unit is available in 8.9-foot and 11.8-foot heights. All fixtures are UL listed. 704/471–2211. Hess America, Shelby, N.C. **CIRCLE 216**

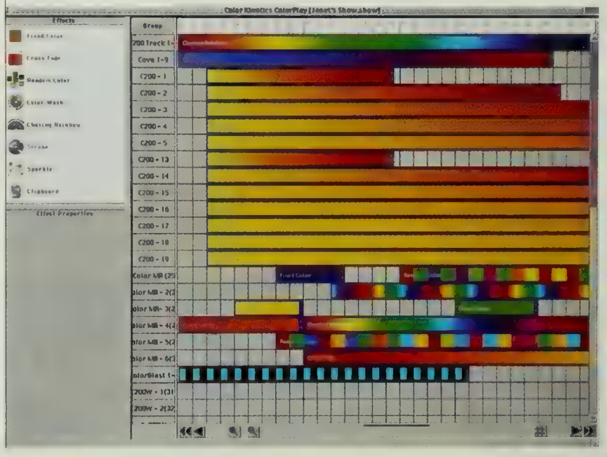


◂ Sanded and frosted sconce

A sanded aluminum base and a seamless frosted acrylic shade compose the Grid wall sconce from Neidhardt. The thick shade evenly diffuses a 60-watt mini candelabra light source, making Grid an application for hallways, entryways, and bathrooms. For use in residential or commercial projects, the fixture is UL listed and ADA compliant. 800/978–8828. Neidhardt Inc., Redwood City, Calif. **CIRCLE 218**

▾ Stage your own show

Creating and editing light shows is now easier with ColorPlay, a new lighting-design software package. The software enables first-time users to have light shows running in minutes without the need for technical programming skills or lighting boards. ColorPlay offers drag-and-drop, effects-based design and real-time show preview capabilities. Users map out their installation with icons on a layout grid. With a grouping function, users can set the same effect for multiple lights in an installation. ColorPlay offers up to 16.7 million colors and a library of lighting effects. 617/423–9999. Color Kinetics, Boston. **CIRCLE 217**



For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Inf

PHÂRO

hansgrohe

Find brightness, transparency
simplicity in Pharo Moonlight,
easily installed shower panel
transforms any bath. Come alive
a 3-function Hansgrohe handsho
and five soothing bodysprays –
perfect features designed in super
materials. Let Pharo transform
daily shower into an unmatch
experience of refreshing pleasure.

For more information call Hansgrohe
at
800 719·1000

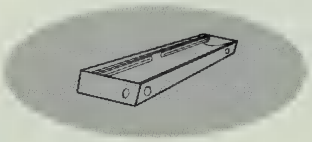
www.hansgrohe-usa.com

CIRCLE 77 ON INQUIRY CARD

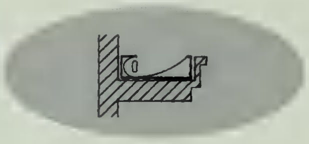
Indirect lighting from 32′ above the ground.

And other small miracles performed daily.]

Christian Wildman



You can't do this with strip lights in your cove. The CL Series of fluorescent cove lights offers predictable photometrics that integrate into



your design. Our patented reflector projects light out of the cove and into the room, providing ample light below. Just think how heavenly that could be. For more information call us at 626.579.0943 or visit our website at www.elplighting.com.

CIRCLE 78 ON INQUIRY CARD

ENGINEERED LIGHTING PRODUCTS

TEC offers you 18 new, up-to-the-minute shades of ***AccuColor***® sanded and unsanded grouts and caulks. Tastefully blended to coordinate with today's tiles.

Call ***1-800-323-7407*** today for a free color selection guide.

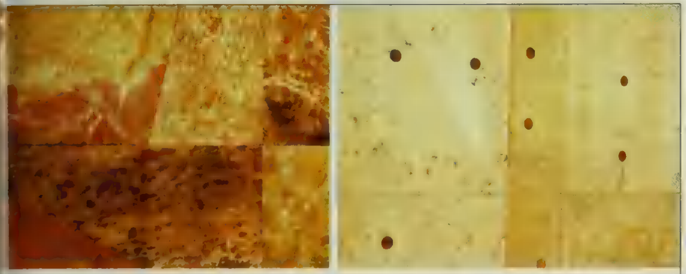
TEC®

an H.B. Fuller company

CIRCLE 79 ON INQUIRY CARD

New Products

At Coverings 2000, the annual international tile and stone exposition held in May, the Tile Council of America announced a 14.9 percent increase in sales for ceramic tile from 1998 to 1999. Trends seen at the show included water-jet-cut edges, stone replications, metallic and iridescent effects, marine designs, and glass tiles. *Rita F. Catinella*



WATER-JET CUTTING AND BRONZE INLAYS HIGHLIGHT NEW ITALIAN STONE TILE COLLECTION

The Kevin Walz Collection for BiMarmi is a group of four designs in stone for the floor or wall available through the importer Ex:Inc. BiMarmi, an Italian stone specialist based in the Puglia region of Italy, uses the latest technology to realize modern interpretations of traditional inlay techniques. Walz's new designs—Bronze Inlay Diced, Planetary Density (top left), Universal Arcs, and Global Marcations (top right)—feature color fields created by water-jet-cut inlaid patterns and resin-filled inlays.

Planetary Density uses the complex patterns innate to Puglia's more ornate earth-toned marbles to form designs with a *marmoseta,* or silk marble, finish that suggests the elements of the cosmos. Melange and Morato, the two marbles incorporated into the tiles, are exclusive to BiMarmi and come from the same quarry. The tile can be made with "planet" and "universe" patterns in the same or contrasting marbles. There are also 6-by-18⅜-inch border tiles with arcs that can be used as an accent or to form a pattern field.

Global Marcations uses San Sebastian, Bianco Barmi, and Murgiano, three detailed light-colored stones, to form 18-by-18⅜-inch tiles with parallel or intersecting arcs incised into the stone and filled with bronze shavings and resin. 212/758–2593. KorQinc, New York City. **CIRCLE 219**

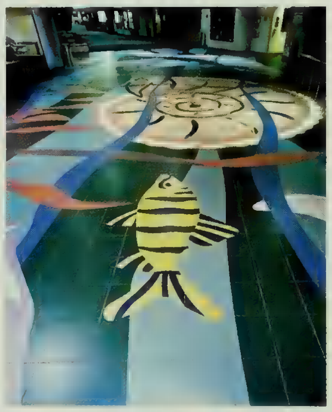
PORCELAIN FLOOR TILES USED TO HONOR AND PROTECT THE NATURAL WORLD

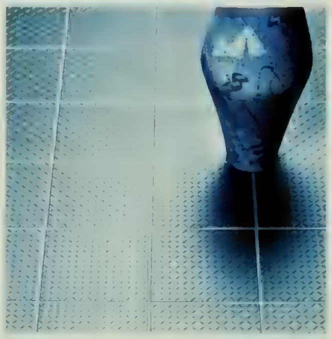
The Eco-Cycle porcelain tile (bottom right), new from Crossville Ceramics, is made by reclaiming and reusing unfired raw materials. More than 95 percent of the taupe-gray mingle tile consists of raw materials generated during the process of manufacturing standard color porcelain tiles.

The new series is available in an 8-by-8-inch size with two surface finishes—unpolished and Cross-Tread with a raised diamond grid pattern. Appropriate for both residential and commercial applications, the Eco-Cycle series costs about half the price of Crossville's standard colors.

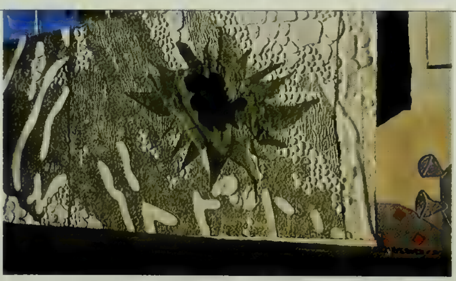
A more natural airport

A tribute to Florida's marine environment was created by Tampa-based Kelly Taaffe Design. The designers replaced the existing flooring at the Sarasota Brandenton International Airport with 52,000 square feet of Crossville Porcelain stone tile, of which approximately 40,000 square feet was cut with water-jet technology. The design used the flooring as a tool to provide an aquarium theme that celebrates the area's beaches and marine life (below). 931/494–2110. Crossville Ceramics Co., Crossville, Tenn. **CIRCLE 220**





HIGHWAY ART RELIEVES DRIVERS FROM BILLBOARD BOREDOM



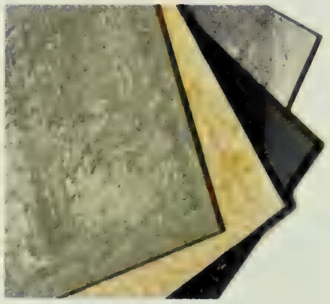
Drivers coasting down an eight-mile stretch of the newly constructed Pima Highway in Scottsdale, Ariz., will notice a carefully designed tile rendition of the Southwest on the concrete walls and bridges. The highway, which passes through the Pima Indian Reservation, features key elements in the Arizona environment, including a series of lizards, agave plants, and prickly pear cacti. To apply the tiles, a series of 25-by-30-foot molds were attached to wood frames, echoing the artist's designs, many of which were three-dimensional. These three-dimensional molds left a recessed area for the tile, which, after it was placed, left a ¼-inch shadow line to be painted a gray-green color. Hopper Handcrafted Specialty Finishes applied approximately 10,000 tiles in custom-made colors of deep reds, the trademark of the desert hues. The tile, manufactured in Wisconsin, came in 4-by-4-inch, 6-by-6-inch, 8-by-8-inch, and 12-by-12-inch sizes. All were fire-glazed ⅜ inch thick.

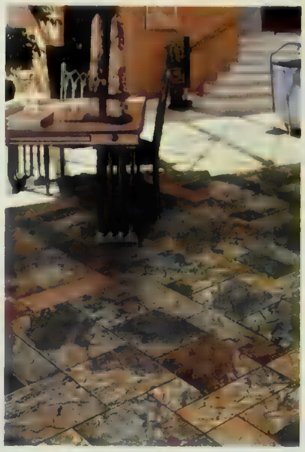
Mapei's two-component latex hydraulic mortar, GRANI/RAPID and Ker 318 was used to apply the tile. Because of its low-shrinkage and quick-hydration characteristics, GRANI/RAPID allows tiled surfaces to be ready for light traffic after about three hours and is completely cured after only 24 hours. 800/42–MAPEI. Mapei, Deerfield Beach, Fla. **CIRCLE 221**

New Products

▼ La Isla bonita

Available polished or with a satin finish in shades of yellow, blue, gray, or black, nine of the new Islas porcelain tile models are offered in a 16-by-16-inch format, while two are presented in a 13-by-24-inch size. In addition, three new decoratives are available to complement the series. Amalfi and Siena are available as 6-by-12-inch listels and 6-by-6-inch inserts in several shades, and the 3-by-13-inch Espiral listel features a Greco-Roman motif. 877/640–0555. Alcalagres America, Miami. **CIRCLE 222**



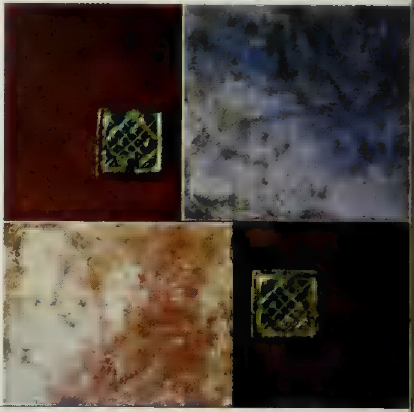


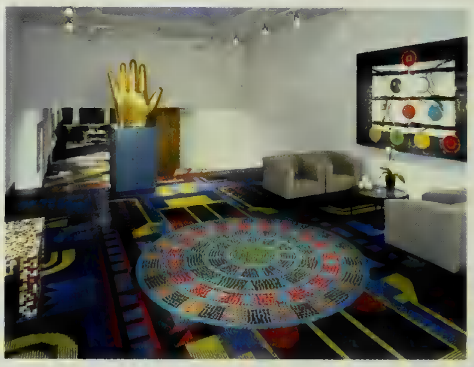
▲ Slate for the floor

The Indian Slate series of glazed porcelain tile from Ceramica Sant'Agostino is available in white, black, ivory, garden, orange, gray, and red. The 4/10-inch-thick rustic tile is intended for both interior and exterior use. The tile features a slate-type structure and has a strong shading base. The trim pieces are available in step, top step, top corner step, skirting, and L-piece. The product has PEIV and R9 certification. 212/980–1500. Italian Trade Commission, Ceramic Tile Department, New York City. **CIRCLE 223**

▼ The weathered look

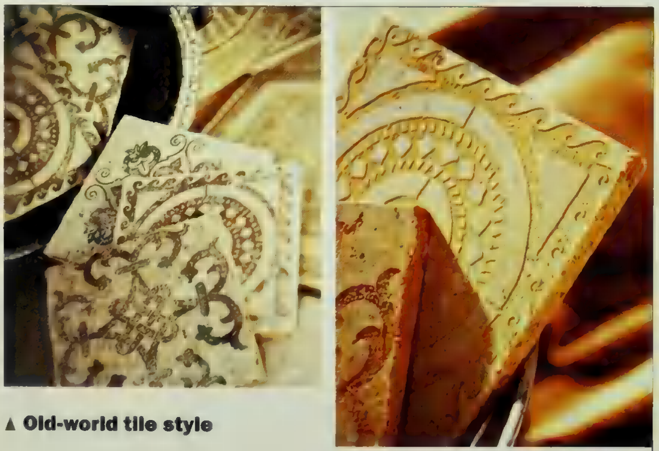
Tiles from Spain offer earthy colors with pronounced shading in the glaze colorations and new satin effects that re-create the appearance of very old tile that has seen centuries of foot traffic. Coordinating decoratives are offered in a variety of designs and colored mosaics. Keraben offers Astorga, a 16-by-16-inch tile from its Jubileo series of glazed porcelain, and Campiña Barro, a 16-by-16-inch red body floor tile. El Molino offers 13-by-13-inch Azul and Beige tiles, and Pamesa offers Pizarra, 4-by-4-inch glazed porcelain decoratives. 305/446–4387. Tile of Spain, Miami. **CIRCLE 224**





▲ Show of color

Bisazza produces glass mosaics for flooring, cladding, and decoration. In addition to the classic 8/10-by-8/10-inch glass-piece mosaics, Bisazza is known for its work with gold mosaics, traditional smalti mosaics, and Avventurina, a man-made stone developed in Venice in the 17th century and today manufactured only by Bisazza. The company's showroom in New York City is dominated by its colorful floor, which focuses attention on several product lines available from the company, including Opus Romano, Logos, and Avventurina. 212/463–0624. Bisazza North America, New York City. **CIRCLE 226**



▲ Old-world tile style

Inspired by Venice, Walker Zanger's new Venezia Collection of decorative stone tile includes a variety of tiles, decorative stone borders, decos, and medallions. Designs are etched into antique-finished stone using the pressure of water in a technique called *aquaforte* (literally "hard water"). The result is a detailed design that is then rubbed with a Sienna or Dorato stain to create a two-tone image. Edges of the tiles are distressed, and their surface has a burnished honed finish, adding to the antique look of the tile. The stone used for the decorative tiles is also included in the collection as field tile. 818/504–0235. Walker Zanger, Sun Valley, Calif. **CIRCLE 225**

▼ Hand-pressed ceramic tiles

Pascale Girardin is a ceramic artist living and working in Quebec. Her work ranges from functional dishware to sculptural lamps and three-dimensional ceramic tiles. The artist has recently created tile work and suspended clay elements for the soon-to-open Soto Tremblant restaurant in Quebec, designed by Jean-Pierre Viau. The high-end monochromatic hand-pressed and hand-glazed pieces (one square foot costs approximately $100) come in three thicknesses and range in size from 2 by 2 inches to 2 by 10 inches. 450/227–7585. Pascale Girardin, Quebec. **CIRCLE 227**

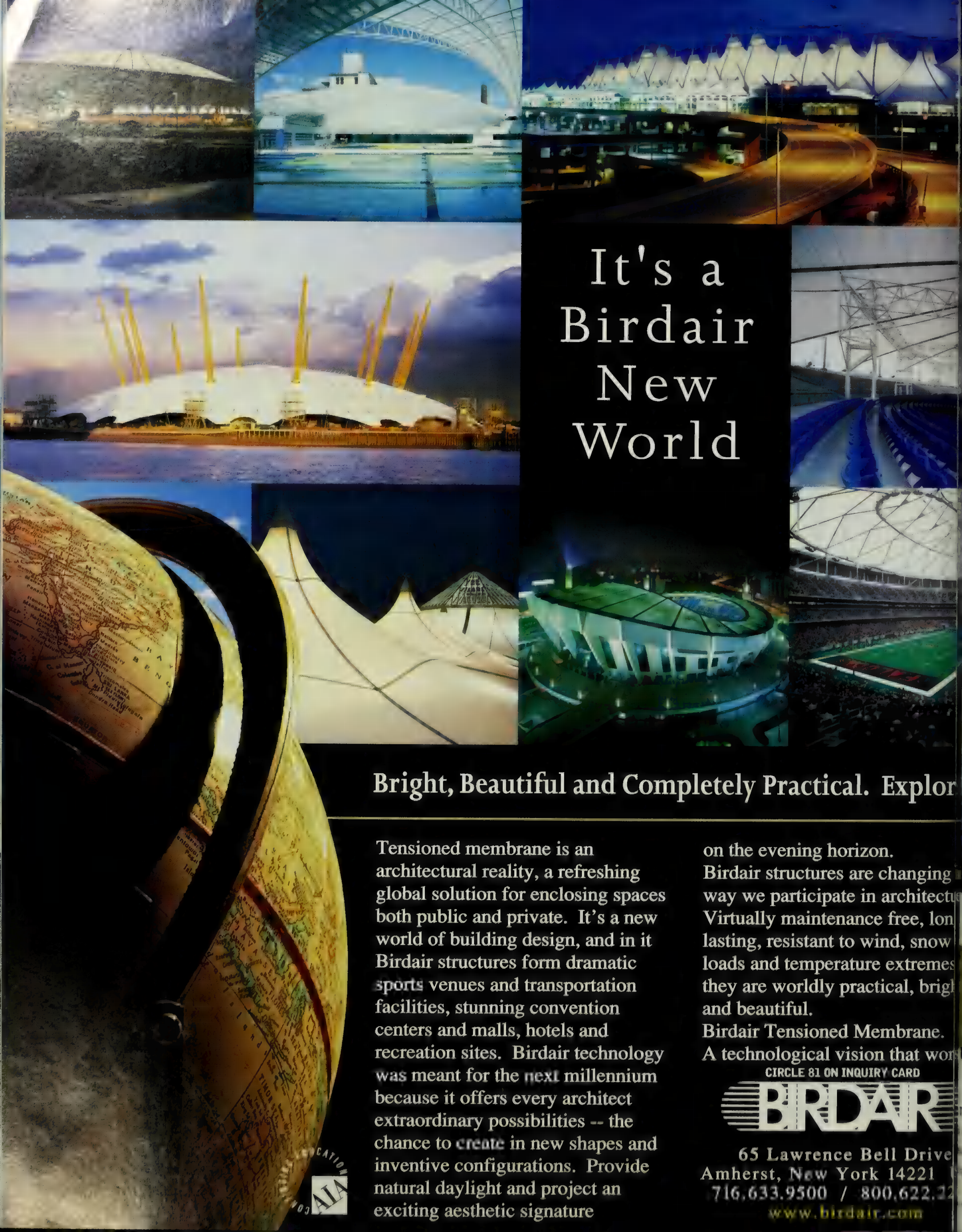
What is a faucet?

ANN SACKS

tile stone plumbing

www.annsacks.com 1+800+969+5217

CIRCLE 80 ON INQUIRY CARD



Bright, Beautiful and Completely Practical. Explor

Tensioned membrane is an architectural reality, a refreshing global solution for enclosing spaces both public and private. It's a new world of building design, and in it Birdair structures form dramatic sports venues and transportation facilities, stunning convention centers and malls, hotels and recreation sites. Birdair technology was meant for the next millennium because it offers every architect extraordinary possibilities -- the chance to create in new shapes and inventive configurations. Provide natural daylight and project an exciting aesthetic signature on the evening horizon.

Birdair structures are changing way we participate in architectu Virtually maintenance free, lon lasting, resistant to wind, snow loads and temperature extremes they are worldly practical, brigl and beautiful.

Birdair Tensioned Membrane. A technological vision that wor

CIRCLE 81 ON INQUIRY CARD

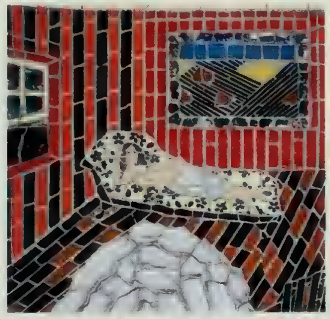
BIRDAIR

65 Lawrence Bell Drive
Amherst, New York 14221
716.633.9500 / 800.622.2
www.birdair.com

Products Briefs

Permanent waves

Undulatus, designed by Stanley Jay Friedman, was previewed at the NeoCon trade show last June in Chicago. The lounge seating, supported by stainless-steel legs, is available in two lengths, 56 and 84 inches. Also from the company is the Elana barstool, designed by Louis Lara. The seating, practical for modern restaurants and bars, features quarter-inch laser-cut steel legs and an upholstered seat. 718/527–3000. Brueton Industries Inc., Springfield Gardens, N.Y. CIRCLE 228

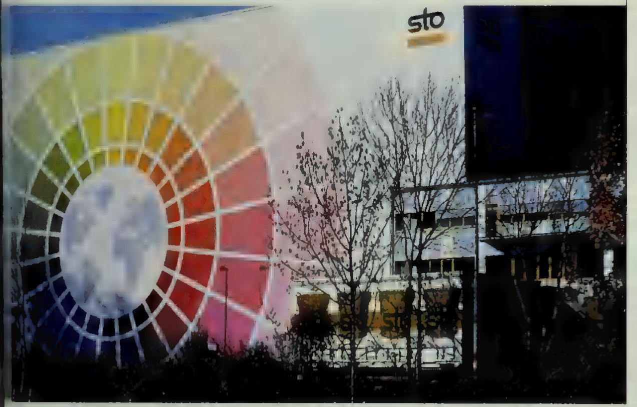


Mosaics with more

Artist Jonathan Mandell uses not only broken ceramic tile, but semiprecious stones, minerals, mirror, marbles, and even petrified wood to create fine-art mosaics depicting both secular and nonsecular subjects. Studio Interior, the 20-by-20-inch piece shown here, was designed by Mandell in 1998. 610/668–9909. Jonathan Mandell, Narberth, Pa. CIRCLE 229

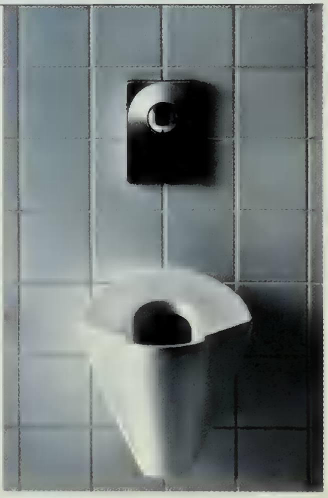
The company behind the (really big) wheel

he largest color wheel applied on an architectural facade was recently lesigned with high-quality Sto plaster and StoColor colors at the Sto AG logisics center in Stuehlinger-Weizen, Germany. The 184-foot-diameter circle, vhich took two months to design and apply, shows a color range of 96 hues lepicted in concentric circles, with a world map at the center. The colors of the vheel were so intense that designers had to wear sunglasses when applying he material. Sto has applied the color wheel for entry into the *Guinness Book f World Records.* 404/346–3666. Sto Design, Atlanta. CIRCLE 230



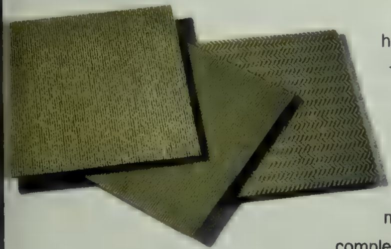
Women take a...stand

The Lady P. urinal is a new concept for women's public bathrooms. With the Lady P., there is no direct contact with the ceramic seat—instead users must face forward and squat slightly (skier fashion)—increasing hygiene, frequency of use, and ease of cleaning. Side dividing walls of half-transparent glass and a swinging door provide privacy but discourage loitering. A pictogram above the paper dispenser shows how to use the urinal. 31/043–350–2456. Sphinx Sanitar B.V., Maastricht, Netherlands. CIRCLE 231



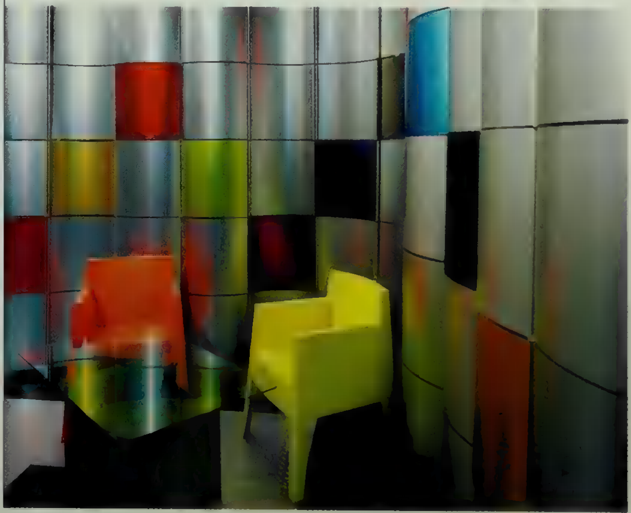
Decorative metal panel system

Mural is a colorful modular panel system in anodized aluminum designed by Claude Mauffette for Alutile. The panel system uses an adjustable leveling system and can be used to divide space, hide columns, and cover a variety of interior surfaces. The 16-by-18-inch easy-to-install panels create a freestanding structure that is decorative and nonstructural. Alutile also offers decorative metal panels in 14 different colors and four different models and custom patterns. 418/840–9197. Alutile, Val Bélair, Quebec. CIRCLE 233



The floors have ears (of corn)

r more than a year, the Interface esearch Corporation and the manufacring and design teams at Interface have been working on a process that would allow the successful manufacture of floor-covering products from polylactic acid (PLA), a renewable resource derived from corn that is manufactured by Cargill/Dow. Two completely recyclable and biodegradable carpet tile products from the Great Plains collection debuted at NeoCon in June. 770/437–6800. Interface Inc., Atlanta. CIRCLE 232

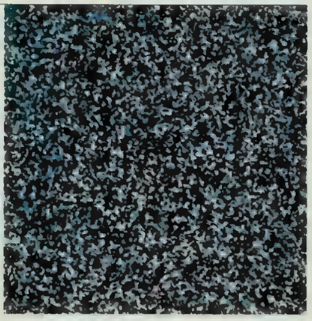


▼ Meet me in the park

Washington Square, designed by Brian Kane, supports users in a slightly reclined position to provide comfort for longer periods. Designers can choose from perforated-metal seat inserts with optional intermediate arms or various interior and exterior woods. The bench frame is welded steel tube. Litter receptacles, tablet arms, side tables, and an ash urn attachment complete the group. 800/521–2546. Landscape Forms Inc., Kalamazoo, Mich. **CIRCLE 234**

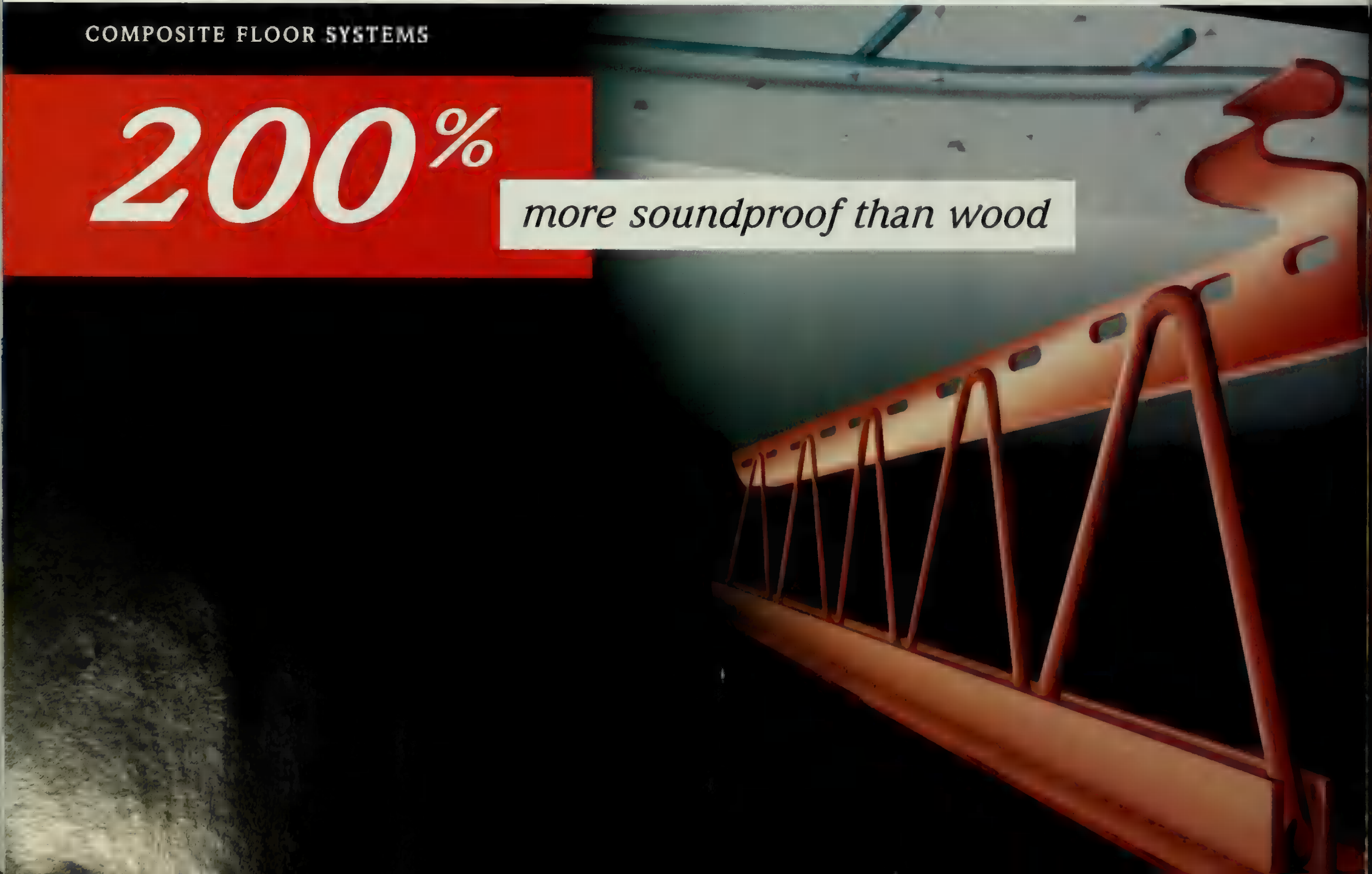
► Bouncing right back

Atmosphere rubber flooring's high-density composition consists of rubber recycled from post-consumer auto tires, with colored granules of EPDM rubber homogeneously mixed throughout. Atmosphere has few, if any, volatile organic compounds (VOCs) and features 36 multi-color combinations. 877/843–8184. To Market, Southport, Conn. **CIRCLE 235**

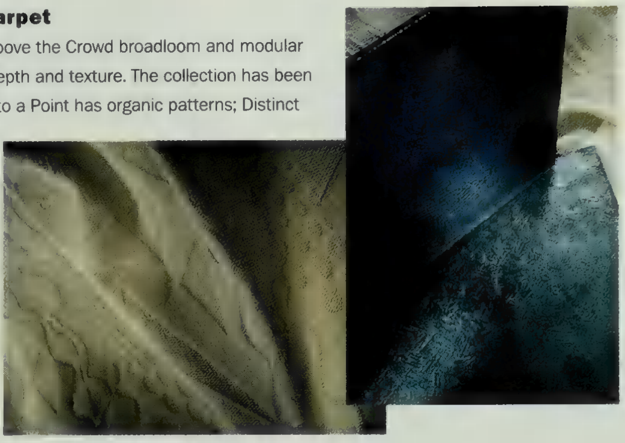


► No more beer runs

The Canadian designers at Barfly Beer Fridges rescue old fridges (circa 1940s–'60s), strip and repaint them, re-insulate them, and restore the chrome trimmings. They then add a chromed tap handle and a black-and-chrome drip tray, so clients have a keg (20 or 30 liters) of their favorite beer handy at all times. The fridges, which have been installed in homes, lofts, advertising agencies, and software companies, come in 14 classic car colors such as Mustang Red, Delorian Silver, and Batmoblie Black. The fridges can be used to store anything, including food or supplies that need to be kept cold. 416/364–8280. Barfly Beer Fridges, Toronto. **CIRCLE 236**

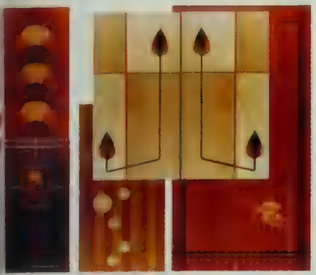


Product Briefs



► New dimensions in glass and carpet

Constructed of Dupont Antron Legacy nylon, Above the Crowd broadloom and modular tile designs (right) feature three-dimensional depth and texture. The collection has been grouped into three stylistic categories: Simple to a Point has organic patterns; Distinct Edge is geometric and architectural in nature; and Black Tie Optional offers custom-order, large-scale patterns. Also new from Mannington is a commercial flooring option called Ultraglas (far right), kiln-formed 18-by-18-inch embossed glass tiles. The flooring is available in three different textures and 16 colors; it meets or exceeds codes for safety glass to ensure durability. 800/241-2262. Mannington Commercial, Calhoun, Ga. **CIRCLE 238**



Anything but wooden design

rchitectural marquetry (the decorative ssembly of precious woods) can be sed to create a landscape on the walls f a lobby, a company logo in a boardoom, a family crest on a door, or rnamental patterns on wainscoting. &E Design provides a variety of maruetry services, and designs ontemporary inlaid furniture using preious woods. 514/524-8955. E&E esign, Montreal. **CIRCLE 237**

◄ Warm air, cool style

The Eclipse automatic, surface-mounted, warm-air hand dryers from Bobrick are available in drawn-steel white vitreous enamel and bright-polished chrome-plated covers. The vitreous enamel cover provides a mid-price point for budget-sensitive projects, combined with vandal resistance for heavy-use-and-abuse washroom environments, such as schools. The polished, chrome-plated model is ideal for retail, restaurant, and health-care installations. Both feature 115-volt operation and are UL listed. 800/553-1600. Bobrick Washroom Equipment Inc., North Hollywood, Calif. **CIRCLE 239**

or more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

3 *hours of fire resistance*

Hambro floor systems provide excellent and highly cost-effective features. These include fast and simple installation along with **Soundproofing Solutions** that make Hambro elevated slabs as much as 100% quieter than conventional concrete slabs and 200% quieter than conventional wood floors. Add **Fireproofing Solutions** which have earned Hambro UL and ULC ratings of up to 3 hours and you have **Built-in Solutions** to your project's safety requirements.

Engineered solutions

Engineered service

Our proven systems, engineering expertise and manufacturing facilities translate into **Value-Engineered Solutions** that allow you to reduce your project's construction timeframe while saving on the cost of materials and labor. For more information, please call your nearest Hambro office or dial 1 800 546-9008 and ask for Gary Collins, Hambro Marketing Manager.

hambro®
SOLUTIONS + SERVICE
CIRCLE 82 ON INQUIRY CARD

http://www.hambrosystems.com

Product Briefs

▾ Cancel those reservations

A New York City showroom has opened for Italian kitchen and bath manufacturer Boffi. The showroom, as well as several of the grand-scale product lines, was designed by Piero Lissoni. Latina (shown) has a velvety matte finish made of an exclusive, scratch- and fingerprint-resistant, hot-pressed polymeric material. The stainless-steel work top can be fitted to a cherry-wood structure with an oven, waste bin, or a container with doors or drawers. Large units with sliding doors and wall units with roller shutters define storage areas. 212/431–8282. Boffi, New York City. **CIRCLE 240**

▲ Modern office trends

DotCom is a wood-based collection of integrated storage elements, desks, and work surfaces for private or open-plan offices. Customized configurations may include runoffs, modesty panels, lateral files, single pedestals, wardrobes, open boxes, and overhead cabinets. The collection combines diverse materials such as aluminum, glass, Corian, corrugated rubber, and CleatorCoat, with a palette of natural woods. DotCom offers easy plug-in access at work-surface height to data, communication, and electrical outlets through aluminum grommets on desks, tables, and credenzas. 858/566–6850. Cleator, San Diego. **CIRCLE 241**

► Double-hung, double-tilt

Milgard's new double-hung, double-tilt window offers the traditional look of wood, while a full-size, flush mount screen keeps insects out when both vents are open. The vinyl windows have a 3⅜-inch frame depth and one inch overall insulation glass unit. The windows can be closed and locked in a single action. Standard frame colors include white and almond, and matching window grids are available. 800/MILGARD. Milgard Manufacturing Inc., Tacoma. **CIRCLE 242**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Info

The Concern For Fire Safety In Commercial Structures.

One Answer is PYRO-GUARD®
Interior Fire Retardant Treated Wood.

PYRO-GUARD has a low rate of fuel contribution and heat release, and it maintains *structural integrity* longer than other building materials such as steel. Consequently, fire damages and repair costs are minimized, resulting in reduced insurance rates.

- Recognized by all building codes.
- Reduces flamespread from Class C to 25 or less (Class A).
- Pressure impregnated for uniform protection.
- In-plant third party quality control.
- Each piece is UL labeled.

PYRO-GUARD®
FIRE RETARDANT TREATED WOOD
Hoover Treated Wood Products, Inc. • P. O. Box 746 • Thomson, GA 30824
For Technical Information Call: 1-800-TEC-WOOD

http://www.FRTW.com • E-mail hoover@frtw.com • Fax: (706) 595-1326

CIRCLE 83 ON INQUIRY CARD

FOLLANSBEE'S

ENVIROMETALS®

TCS II® AND TERNE II®

roofing metals
coated with a revolutionary
new alloy that enhances their
corrosion resistance even in
chemically-polluted
and marine atmospheres

Drawing on more than a century of experience in producing roofing metals, Follansbee has now created a new alloy which is environmentally sensitive and enhances a roofing metal's corrosion resistance in severe atmospheres such as those encountered in chemically-polluted and marine environments.

Developed by Follansbee over a 7-year period of testing in laboratory and field conditions, the new ZT alloy does not rely on the sulphur content of the atmosphere to develop its protective and attractive gray patina. The ZT alloy is oxygen-reactive, therefore, it develops its patina under all ambient conditions–rural, industrial or marine.

Follansbee now offers TCS II and TERNE II, roofing metals coated with lead-free ZT alloy. Many prominent architects are already specifying these Follansbee roofing metals, and feel as we do, that they are roofing products which meet the demanding construction needs of the coming century.

We will be happy to send you complete information on TCS II and TERNE II and the new ZT alloy. Call us toll-free, 1-800-624-6906.

Creating outstanding roofing metals for more than a century

FOLLANSBEE®

Visit us on
the Website:
[illegible]

FOLLANSBEE STEEL • FOLLANSBEE, WV 26037
FAX 1-304-527-1269

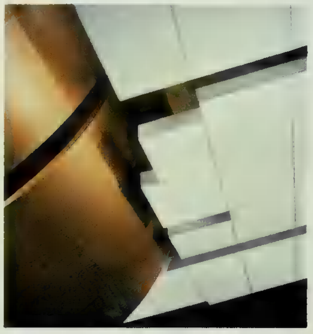
Our E-Mail
address:
folrfg@lbcorp.com

CIRCLE 84 ON INQUIRY CARD

Product Briefs

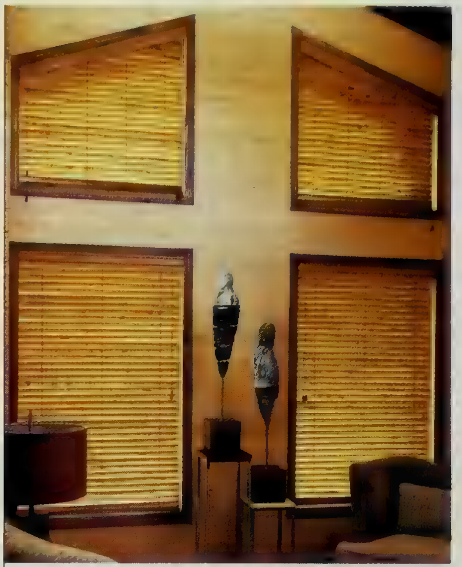
▼ Sexy curves

The Curvatura Elite 3-D ceiling system adds a narrow suspension profile to USG's curved ceiling selections. Available in a variety of shapes, textures, and colors, the system features a narrow 9/16-inch profile. Flexible infill panels are available in perforated or unperforated metal, woven wire mesh, and translucent, fiberglass-reinforced plastic. 800/USG–4YOU. USG Corporation, Chicago. **CIRCLE 243**



▲ In good company

The Company guest chair (above), from Steelcase Wood, fuses wood and aluminum with contrasting solid maple legs and aluminum arms. Designed by Kirt Martin of the Steelcase Wood Treehouse Studio, the chair stacks and gangs. Also new from the company is Deck, a line of functional chairs, stools, and tables designed by Brian Kane. 800/333–9939. Steelcase Wood Furniture, Grand Rapids, Mich. **CIRCLE 244**



▲ Residential wooden blinds

The Country Woods collection of blinds from Hunter Douglas includes three product lines of painted or stained hardwoods. Country Woods Select (above) offers three rustic looks and five premium choices in genuine oak, cherry, and maple. Country Woods Reflections simulates the look of shutters with a 2⅝-inch beveled slat, and Country Woods Classics provides a choice of one- or two-inch slat sizes in a collection of 27 finishes. 800/937–STYLE. Hunter Douglas Window Fashions, Upper Saddle River, N.J. **CIRCLE 245**

For more information, circle item numbers on Reader Service Card or go to www.architecturalrecord.com Advertiser & Product Inf

GSA U.S. General Services Administration

DESIGN COMPETITION

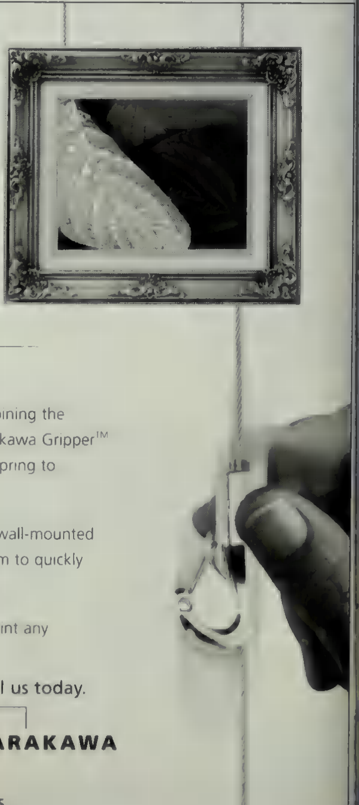
NEW UNITED STATES COURTHOUSE
LOS ANGELES, CALIFORNIA

700,000+ gross square feet
$220M+ construction cost

The U.S. General Services Administration is pleased to announce a Design Excellence Competition for the selection of an Architect/Engineer Team to design a new United States Courthouse in downtown Los Angeles, CA. The gross square footage will be over 700,000 with an estimated construction cost over $220,000,000. The design competition will be comprised of three stages with the finalists expressing their vision of the courthouse in a blind competition. The designs will be judged by an independent jury of nationally recognized design professionals.

For a copy of the
Commerce Business Daily
[illegible] other information,
contact [illegible], Project
Executive, at [illegible] or
[illegible]@gsa.gov.

CIRCLE 85 ON INQUIRY CARD



form

and function

The new AF3P auto-lock hook: combining the convenience of the self-arresting Arakawa Gripper™ with the security of a carabiner-like spring to effectively secure your art.

Hang the AF3P from a cable on our wall-mounted rail, and you have an attractive system to quickly position art anywhere on the wall.

And you won't have to patch and paint any more nail holes.

Call us today.
toll free
888.ARAKAWA

ARAKAWA HANGING SYSTEMS
1020 SE Harrison Portland, Oregon 97214 www.arakawagrip.com

CIRCLE 86 ON INQUIRY CARD

Introducing **SMARTBEAM™** from **SMI Steel Products**, an innovative new alternative to heavier more cumbersome structural systems.

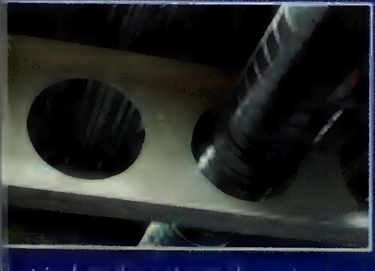
ADVANTAGES INCLUDE:

- long span design provides a more column free space
- web opening geometry is variable in both hexagonal and round configuration
- camber is built-in during manufacturing at no additional charge
- allows for asymmetrical composite design
- can be painted galvanized or fireproofed
- lighter weight allows use of smaller columns and footings
- lowers overall building height and weight
- mechanical services pass through web opening
- long span design erects faster and requires less columns and footings
- made from 100% recycled materials
- spans and depths to your specifications
- design now available in RAM Structural System™ version 6.02
- architecturally pleasing when exposed

SMI | STEEL PRODUCTS

(877) 764-2326
4365 Highway 278 West • Hope, Arkansas 71801

cmc Steel Group



ectrical and mechanical services run rough rather than under reducing floor to oor heights therefore reducing costs of your [illegible]

Smartbeam™ is perfect for large, open-spanned spaces and can provide the exposed look today's architects want.

Smartbeam™ offers versatility, reliability and economy for all types of floor and roof structures.

CIRCLE 67 ON INQUIRY CARD

Call 4 Entries
DESIGN COMPETITION
FOR FURNITURE COMPONENTS, ACCESSORIES AND HARDWARE

The "15th Annual Doug Mockett & Company Design Competition" is seeking entries. ☐ The competition is limited to furniture and cabinet components of any sort including hardware and accessories. Entries will be accepted until September 1, 2000, and winner(s) will be announced by December 15, 2000. ☐ A unique aspect of the competition is that only First Prizes are awarded, and there is no limit to the number of First Prize recipients. Winner(s) will receive US $1,000.00 and an engraved trophy, plus a royalty awarded for each design we accept for manufacture. ☐ All entries must be mailed to the address below REGISTERED, RETURN RECEIPT MAIL. ☐ For further information, please contact us.

Doug Mockett & Company, Inc.
Box 3333 • Manhattan Beach, CA 90266 USA
Tel: 310-318-2491 • FAX: 310-376-7650
Visit us on the Internet at www.mockett.com

CIRCLE 88 ON INQUIRY CARD

Welcome to the New Stone Age

For member referrals, technical information and help finding sources of stone, call (614) 228-6194. It's your gateway to the New Stone Age.

Marble
Granite
Slate
Onyx
Travertine
Limestone
Sandstone
Quartzite

The Marble Institute of America, Inc.
614-228-6194
Fax: 614-461-1497
http://www.marble-institute.com

CIRCLE 89 ON INQUIRY CARD

Product Literature

Retail design aid

The *Retail Store Environments* brochure, available from USG, gives architects, store planners, and designers detailed information about specific products that have been designed and developed for department stores, mall interior spaces, discount stores, mass merchandisers, grocery and convenience stores, and boutiques. 800/950–3839. USG Corporation, Chicago. **CIRCLE 246**

Lighting CD kit

W.A.C. Lighting has introduced a new kit that includes a CD, catalog, and linear fixture sample. The company offers four track systems, recessed housings and trims, miniature fixtures, surface mounts, decorative pendants, rope lighting, button lights, display lights, and accessories. 800/526–2588. W.A.C. Lighting Co., Garden City, N.Y. **CIRCLE 247**

Partition hinge brochure

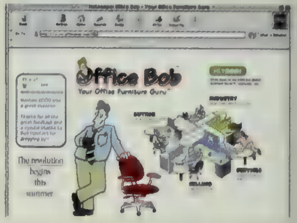
Markar Products' new 16-page toilet partition hinge brochure contains a product overview featuring the company's adjustable fasteners and internal spring mechanisms for ADA compliance. Data sheets include photography, 3-D illustrations, technical drawings, and specifications. 800/866–1688. Markar Products Inc., Lancaster, N.Y. **CIRCLE 248**

Acrylic block information

Hy-Lite Products' new kit of literature for builders and remodelers features three separate pull-out brochures inside an informative presentation folder. The kit explains the features and benefits of acrylic block usage both in home and commercial projects. 877/712–4014. Hy-Lite Products Inc., Beaumont, Calif. **CIRCLE 249**

NEW SITES FOR CYBERSURFING

New, used, and refurbished office furniture and services **www.officebob.com**



Resource center for the office interiors industry **www.officeplanit.com**

Portal for architecture, interior design, and construction industries worldwide **www.e-IDC.com**

Supports relationships between buyers, dealers, and manufacturers in the office furniture supply chain **www.facilityXpress.com**

Product Literature

Flooring catalogue

BurkeMercer Flooring Products, a manufacturer of resilient wall base, stair treads, tile, moldings, and a photoluminescent system, is now offering its 2000 products catalogue, sample boards, and moldings chart. 800/447–8442. BurkeMercer Flooring Products, San Jose, Calif. **CIRCLE 250**

Storefronts and entrances

Tubelite, a supplier of curtain-wall products, storefronts, and entrances, has a new brochure for 2000. Tubelite's line of storefronts and entrances is featured, ncluding its standard and custom entrances, monumental doors, VersaTherm framing, and custom and standard finishes. 800/866–2227. Tubelite Inc., Reed City, Mich. **CIRCLE 251**

Therapeutic CD

A new interactive CD covers the history of Ultra Baths and provides insight into he Thermo-masseur concept, the benefits of hydro-massage, and full details on he Ultra Baths product line. 800/463–2187. Ultra Baths Inc., Saint-Nicolas, Quebec, Canada. **CIRCLE 252**

Petite CD-ROM

The i-Bulletin, an electronic product-information encyclopedia on a CD-ROM the size of a business card, is available for Leviton Wetguard products—a line of plugs and connectors designed for harsh and wet conditions. The CD-ROM can be run on any desktop or laptop computer. 800/323–8920. Leviton Manufacturing, Little Neck, N.Y. **CIRCLE 253**

Safety manual

The *NRCA Safety Manual* is a comprehensive publication that addresses all roofing-related safety issues and features roofing-specific checklists of safe work practices. 800/323–9545. National Roofing Contractors Association, Rosemont, Ill. **CIRCLE 254**

Southern Pine reference

The *Southern Pine Use Guide*, a comprehensive technical reference for specifying and using Southern Pine lumber, has been revised and updated by the Southern Pine Council. The 24-page booklet has grade descriptions, design values, and commonly used span tables. Also included is information on proper lumber storage, sound transmission, and flame spread. 504/443–4464. Southern Pine Council, Kenner, La. **CIRCLE 255**

or more information, circle item numbers on Reader Service Card or go to ww.architecturalrecord.com Advertiser & Product Info

From No Clear Directions to Order And Simplicity.

At Last, One Drawing Standard.

Don't you feel better?

The Uniform Drawing System™
Now part of the new U.S. National CAD Standard.

The Construction Specifications Institute

800.689.2900
www.csinet.org

CIRCLE 90 ON INQUIRY CARD

Dates & Events

Calendar

Giorgio Morandi Etchings
New York City
Through August 22
Seen in 16 works from the period 1912–1945 is the Italian artist's architectonic formal style. The Museum of Modern Art. 212/708–9400.

Modern Living 1
New York City
Through August 22
Design objects, architectural drawings, and models explore the clarity, efficiency, and hygiene advocated by designers Gerrit Reitveld, Eileen Gray, and others who inspired the course for Modernism. The Museum of Modern Art. 212/708–9400.

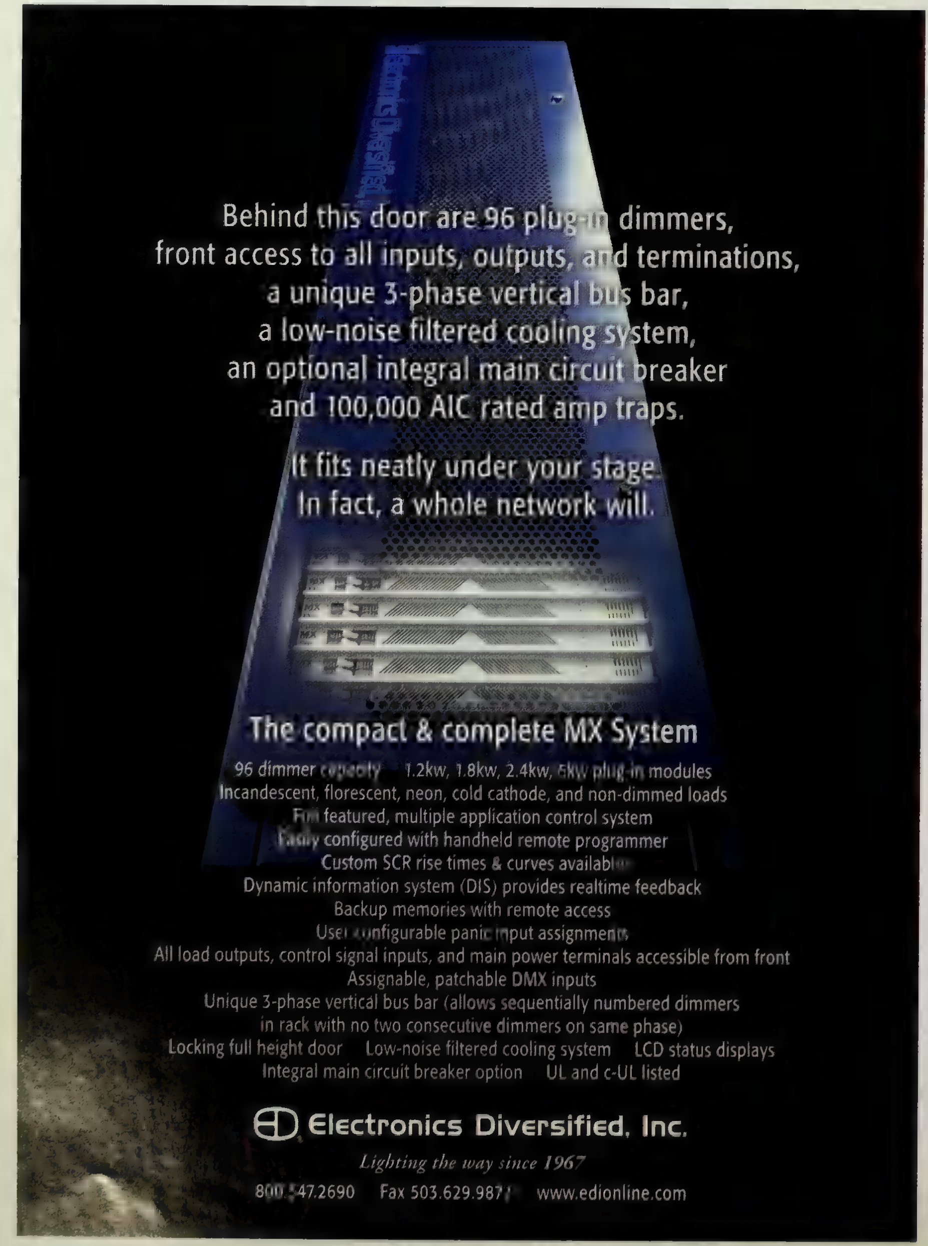
Restoration & Renovation
San Antonio
September 7–9
A trade show and conference dedicated to architectural rehabilitation, cultural landscape preservation, and historically inspired construction. Architects earn Quality Level 2 Credits including Health, Safety, & Welfare. 800/982–6247

Promosedia—24th International Chair Exhibition
Udine, Italy
September 9–12
This is the only exhibition in the world dedicated wholly to seating. It is a meeting place for designers and the specialized trade, as well as a source of cultural, industrial, and artistic renewal focused on this basic item of furnishing. +39/0432–745611

At the End of the Century: 100 Years of Architecture
Los Angeles
Through September 24
In 21 parts, this massive international exhibition organized by MOCA surveys countless architectural photographs, scale models, drawings, furnishings, clips, and artifacts. The Museum of Contemporary Art at the Geffen Contemporary. 213/621–2766.

Modern Living 2
New York City
Through September 26
After WWII, figures such as Eames, Nelson, Saarinen, and Aalto adapted industrial technology for the manufacture of rational, functional, and affordable domestic objects on display. The Museum of Modern Art. 212/708–9400.

Spacifically 2000
Los Angeles
September 26–28
A conference and exposition for spa-industry executives. The trade show is for spa, hotel, resort, beauty, health-care, and wellness-center executives, and any others related to spa business services. For information on exhibiting, sponsorship opportunities, or show attendance contact Nicole Davis at 212/647–0808.



Behind this door are 96 plug-in dimmers,
front access to all inputs, outputs, and terminations,
a unique 3-phase vertical bus bar,
a low-noise filtered cooling system,
an optional integral main circuit breaker
and 100,000 AIC rated amp traps.

It fits neatly under your stage.
In fact, a whole network will.

The compact & complete MX System

96 dimmer capacity   1.2kw, 1.8kw, 2.4kw, 6kw plug-in modules
Incandescent, florescent, neon, cold cathode, and non-dimmed loads
Full featured, multiple application control system
Easily configured with handheld remote programmer
Custom SCR rise times & curves available
Dynamic information system (DIS) provides realtime feedback
Backup memories with remote access
User configurable panic input assignments
All load outputs, control signal inputs, and main power terminals accessible from front
Assignable, patchable DMX inputs
Unique 3-phase vertical bus bar (allows sequentially numbered dimmers in rack with no two consecutive dimmers on same phase)
Locking full height door   Low-noise filtered cooling system   LCD status displays
Integral main circuit breaker option   UL and c-UL listed

Electronics Diversified, Inc.
Lighting the way since 1967
800.547.2690   Fax 503.629.9877   www.edionline.com

CIRCLE 91 ON INQUIRY CARD

DESIGN AS HIGH OR AS WIDE AS YOU CAN DREAM...

With Strong, Lightweight and Durable Metal Wall and Cladding Systems

A complete palette of colors and finishes, textures and profiles for the most discriminating designers of high- and low-rise commercial, institutional and industrial buildings.

Contact the Metal Construction Association for some free thought-provoking ideas, technical literature, Merit Awards entry brochure and more information on MCA's Metal Wall Panel Council.

104 S. MICHIGAN AVE.
STE. 1500
CHICAGO, IL 60603
PHONE: 312-201-0193
FAX: 312-201-0214
www.mca1.org

MCA
Metal Construction Association

CIRCLE 92 ON INQUIRY CARD

Rail-Volution 2000: The Livable Metropolis, Prospects and Profits
Denver
October 4–8
A definitive national conference on the building of livable communities comprises hands-on workshops, case studies of built examples, and moderated panel discussions. Adams Mark Hotel. 800/788–7077.

Preserving the Recent Past II
Philadelphia
October 11–13
Sponsored by the National Park Service, the General Services Administration, the Society of Architectural Historians, DOCOMOMO, and other preservation-minded groups, this weekend of events includes 70 speakers, an exposition, tours, and a curtain wall symposium. Loews Hotel (historic PSFS Building). 202/343–6001.

Aluminum by Design: Jewelry to Jets
Pittsburgh
October 28, 2000–February 11, 2001
The first major museum exhibition to explore how aluminum has inspired creativity and sparked innovation in design, including works by such visionaries as René Lalique, Jean Prouvé, Ludwig Mies van der Rohe, Russell Wright, Charles and Ray Eames, and Gio Ponti. Carnegie Museum of Art. 412/688–8690.

Master Works
Philadelphia
Through September 1
Selected from among the Architectural Archives of the University of Pennsylvania's 350 individual collections. Exhibition includes works by Louis I. Kahn, Frank Lloyd Wright, Lawrence Halprin, Venturi, and Le Corbusier. Fisher Fine Arts Library. 215/898–8323.

Reinvigorating Cities: Smart Growth and Choices for Change
Washington, D.C.
Through September 6
This looks at how cities of various sizes are working to reestablish themselves as vital and inviting places to live, work, and play. These are stories of revitalizing neighborhoods and downtowns, making places, preserving identity, and building community. National Building Museum. 202/272–3606.

Richard Morris Hunt Fellowship
France
Through September 30
This fellowship is awarded to French and American architects pursuing careers in historic preservation. In 2001, an American architect will spend six months in France studying preservation practice related to the documentation, protection and enhancement of French heritage, culture, environment, and resources. 202/626–7511.

Uniting the Useful with the Beautiful: The Architecture of the Arts and Crafts Movement
Perry, Iowa
October 19–22
This year the focus of the conference is the architecture of the Arts and Crafts movement along with the designers who created, and are creating, homes and buildings that provide the environment for our lives. Hotel Pattee. 212/889–3580.

Next Generation Sensor Initiative Planning Workshop
Pittsburgh
October 31–November 1
The workshop will identify opportunities for collaborative partnerships for new sensor-technology development. Attendance is limited. Sheraton Square Hotel, 412/383–2500.

Get "Up to Code" Fast
with the QuickStart Solution

Only from ICBO

Building departments across the United States are buying and adopting the new 2000 *International Building Code*

That's why ICBO created the QuickStart solution to help you get up to speed on the new code requirements fast. When you purchase an *International Building Code*® (IBC) from ICBO, we give you a complimentary copy of *IBC Code Highlights—A QuickStart Guide to the Code* and a set of Turbo Tabs. The *QuickStart Guide* will streamline your understanding of the IBC. The Turbo Tabs mark key sections of the code for easy access to the section you need. This all means faster, easier, more confident application of the code provisions in your design, plan review and inspections. Bottom line, these products will save you money and time.

QuickStart Solution (2000 IBC, IBC Code Highlights—A QuickStart Guide to the Code, Turbo Tabs)

Soft Cover Item No. 100S2K $77.80
(ICBO Member Discounts Available)
Loose Leaf Item No. 100L2K $87.80

Order Today!
(800) 284-4406
www.icbo.org

More Exclusive Offers from ICBO

- ✓ 2000 IBC Exclusive Hard Cover Edition - Quantities are limited.
- ✓ ASTM Referenced Standards - Contains all ASTM Standards that are referenced by, but not included in, the 2000 IBC. Check out the ASTM/IBC Package.

Call or visit our web page for details and pricing.

ICBO

More people buy code products from ICBO than from anywhere else in the world!

CIRCLE 93 ON INQUIRY CARD

Competitions

AIA New York Design Awards 2000

Entry form deadline: September 1

Submission deadline: September 19

The program recognizes the achievements of New York City's architects. Any registered architect practicing in the city may enter, regardless of AIA membership. Award categories—architecture, interiors and projects—are each judged by a separate jury of architects. 212/683–0023.

New School of Business Design Competition

First-stage entry deadline: August 31

The University of South Dakota is sponsoring a two-stage design competition for a new School of Business. Open to registered architects with experience in design and project management at the scale required. The first stage of competition (portfolios/credentials) will be reviewed by a professional jury and selected entrants will be invited to enter the second stage. The selected entrants will submit their requisite proposals for final review by a state building committee and will receive a cash award for their work and travel expenses. The winning entrant will be awarded the commission. 605/677–6101 or www.usd.edu/finadmin/competition/index.htm

Ar+d Award

Deadline for receipt of entries: September 12

This award is for completed work by architects nder the age of 45 and aims to recognize new alent worldwide. Submissions are encouraged or all building types, interiors, manufactured roducts, urban design, landscape, bridges, and temporary structures. There will be a irst prize of £5,000. Go to www.arplus.com for ore information.

efore + After: The Intentions and rocesses of Transformation

eadline for receipt of entries: October 16

juried exhibition will present a critical inquiry nto architectural interventions and the trends ffecting change in the built environment. Two mages and supporting process documentation ill compare the state of an original condition nd the effect of a practical and transformative tervention. $15 entry fee. 303/443–1945.

lease submit information for the calendar to grid_whitehead@mcgraw-hill.com.

Act before the 10/1/00 deadline

Small-Business Owners...

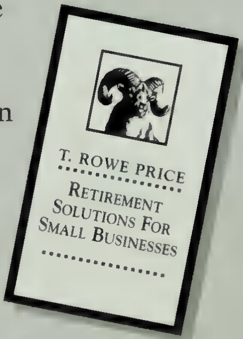
Is the SIMPLE IRA Plan right for you?

T. Rowe Price can help you find out.

If you're a small-business owner and want to start a retirement plan for you and your employees, you should consider this option.

Retirement plans for small-business owners

Our free guide will help you compare your retirement plan options. You can choose the one that's best for you and your business.



The SIMPLE IRA retirement plan is like a 401(k) in that both you and your employees contribute to the plan. The difference is that the SIMPLE IRA is much easier to set up and less expensive to maintain. Plus, your contributions to the plan are generally tax-deductible as a business expense, and there are no IRS filings required.

Act before the October 1 deadline. Call T. Rowe Price today. We'll send you our free Retirement Solutions guide, along with our SIMPLE IRA kit. Remember, you only have until October 1 to set up your plan for 2000.

For your free kit, call our retirement representatives today
1-800-831-1458
www.troweprice.com

Invest With Confidence®
T.RowePrice

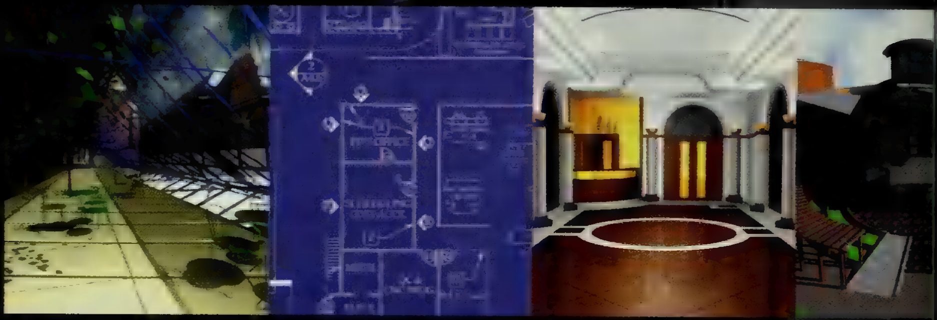
T. Rowe Price Investment Services, Inc., Distributor. SIMP055074

CIRCLE 94 ON INQUIRY CARD

www.vectorworksarchitect.co
1-888-646-42

VectorWorks ARCHITEC

Delivers the promise of Architectural CA



"VectorWorks ARCHITECT is a great program...I am currently getting re-trained in AutoC Architectural Desktop Revision 2...and it just doesn't stack up to VectorWorks ARCHITEC
—Edward Koenig, Carmelhill Drafting Studio

Isn't it about time someone addressed the promise of CAD?
Introducing VectorWorks ARCHITECT

Engineered and built by professionals in your discipline, ARCHITECT delivers on the promise of architectural CAD. It does everything CAD was supposed to do but didn't quite. Truly a better way to design, ARCHITECT integrates Design, Production and Project Management into a system that delivers unparalleled productivity—all at a price even the smallest firm can afford.

INTEGRATION

- Complete integration of your 2D plans, 3D models, reports, schedules & client presentati
- Scalable CAD standards make it easy to structure & manage documents

DESIGN

- Unprecedented tools for programming studies and analysis
- Thousands of "Intelligent" building Objects & 2D/3D architectural symbols
- State of the art Solar Animator

PRODUCTIVITY

- An easy system for archiving, placing, & managing notes
- Automatic creation of reports & schedules
- Project Management features including issue management, error & revision control, & workgroup referencing

Special Offer to Readers of *ARCHITECTURAL RECORD*

Save over $180 by purchasing VectorWorks ARCHITECT direct for $1395 or without photorealistic rendering for $1140. Includes FREE Tech Support and a 90-Day Money-Back Guarantee.
*Existing VectorWorks users call for upgrade pricing.

NEMETSCH
NORTH AMERI
CIRCLE 104 ON INQUIRY

Our Fire Doors Are Starring
In An Application Near You

The RITE Door®
Integrated Door Systems

The Rite Door is the one source solution for fire-rated doorways. It combines integrated, pre-installed hardware and innovative design for a beautifully simple fire door that is quick to install and easy to maintain. The Rite Door is soundly constructed with Grade 1 Exit Hardware and meets the strictest building codes and ADA guidelines. For theaters, and lots of other applications, The Rite Door is a stellar performer.

The Rite Door integrates factory assembled hardware and door with a wide range of custom finishes and options.

Contact Adams Rite for more information.

ADAMS RITE
MANUFACTURING CO.

260 Santa Fe Street, Pomona, CA 91767 • 800-872-3267 • Fax: 800-232-7329 • www.adamsrite.com

CIRCLE 95 ON INQUIRY CARD

DRAWING A CROWD *continued from page 75*

building programs. In 1994 the Octagon's widely seen traveling exhibition *The Grand American Avenue* influenced the Chicago Architecture Foundation and the newly formed Glessner House Museum to launch a restoration project for Prairie Avenue. And the winning entry in a competition held by the Royal Academy of Arts in London in conjunction with its exhibition *Living Bridges* is being built.

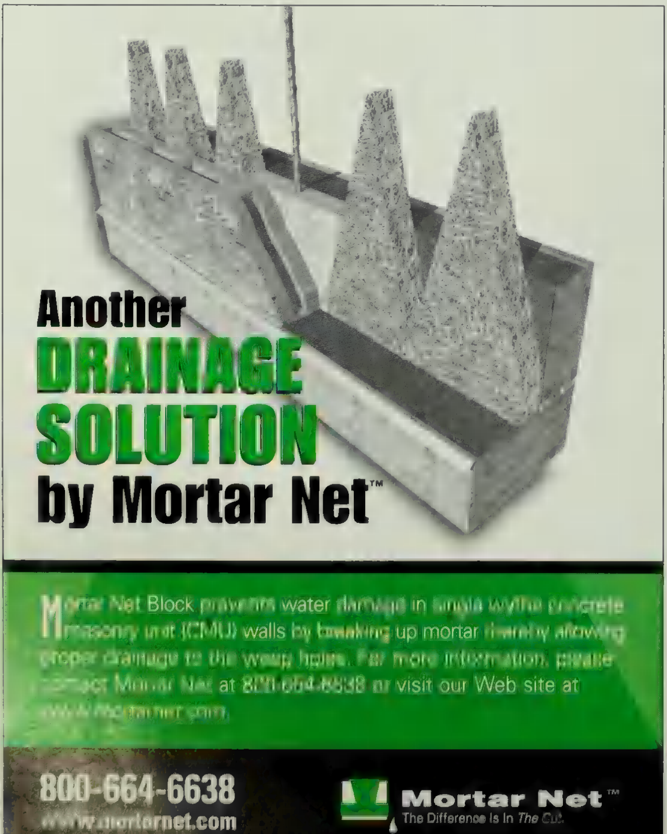
In terms of the broadest main currents in architectural culture and culture in general, the effects of exhibitions are more difficult to ascertain. Jean-Louis Cohen, an architect and historian who is currently in charge of developing what will be the world's largest architecture museum, the approximately 72,000-square-foot Cité de l'Architecture et du Patrimoine, scheduled to open in Paris in 2003, contends, "It can be documented that exhibitions are capable of raising the expectations of clients. And exhibitions can give citizens at large a certain confidence regarding their own views on architecture."

Will all of the issues and concerns currently swirling around architectural exhibitions soon be buried by the ever-expanding Internet? Indeed, will the Internet make trips to museums largely unnecessary? Terence Riley points out that when it comes to new media, it is important to take the long view. Historically, new media tends not to make existing media obsolete, or even dated, necessarily, but instead increase total participation in a given field. For example, while it is true that the advent of inexpensive magazines cut into the production of books, the total number of books and magazines far exceeds the previous number of books alone. The same situation exists with regard to film and television, and now promises to apply to the dissemination of architectural information on the Net and in museums and galleries. The public's interest in architecture, at least for the moment, seems to be growing. And this trend may be accelerated by the growth of easily accessible information and imagery. So while in the future, gaining architectural information by computer may constitute a bigger slice of the pie, the pie may be larger as well. ■

1

2

1. *The Work of Charles and Ray Eames: A Legacy of Invention* (1999–2000)
2. *National Design Triennial: Design Culture Now* (2000)
Both at Cooper-Hewitt, National Design Museum, Smithsonian Institution, New York City


Another DRAINAGE SOLUTION by Mortar Net™

Mortar Net Block prevents water damage in single wythe concrete masonry unit (CMU) walls by breaking up mortar thereby allowing proper drainage to the weep holes. For more information, please contact Mortar Net at 800-664-6638 or visit our Web site at www.mortarnet.com.

800-664-6638
www.mortarnet.com

Mortar Net™
The Difference Is In *The Cut.*

CIRCLE 96 ON INQUIRY CARD

VOLLi Great entrances deserve great doorpulls

tel 805 684 7372 fax 805 684 4295 info@volldesign.com

CIRCLE 97 ON INQUIRY CARD

Give your designs added dimension and dramatic impact.

eme parks
◆
ountains & pools
◆
Botanical
servatories
◆
eatrical fog effects
◆
iature golf courses
◆
Dark ride effects
◆
wamp fog simulation
◆
Ice rinks & arenas
◆
Family fun centers
◆
And more

Fog that mimics smoke, haze and steam.
Mee Fog looks like smoke but uses no chemicals or dry ice. It mimics steam but doesn't wet like mist. It can create the look of a tropical rain forest in a theme park, simulate realistic volcano steam effects and transform a hot, arid climate into a cool oasis.

Projects from the modest to the grandiose.
From intimate themed restaurants such as the Rain Forest Cafes to large-scale projects like Las Vegas's stunning Bellagio Hotel fountains – which use over 5,000 Mee Fog nozzles – environmentally friendly and energy efficient Mee Fog is the medium of choice of designers coast to coast.

Proven experience.
Mee Industries brings a great deal of experience to the special effects market. Our high pressure fog technology is mature and has been field proven in numerous applications since 1969.

Contact the Mee Fog People today for more information.

www.meefog.com

Are you talking to Mee?

626-359-4550
800-732-5364

MEE INDUSTRIES INC.

CIRCLE 90 ON INQUIRY CARD

ST. JEAN VIANNEY CHURCH *continued from page 118*

rials themselves as symbols of permanence. We talked about limestone, but of course we couldn't afford solid stone, and we thought stone veneer was essentially dishonest. The next best thing was concrete. Not precast panels, but poured in place, and devoid of frivolous decor."

In response to Blanchard's fear that bare concrete had the wrong associations—industry and interstates—Trahan showed the priest work by Louis Kahn and Tadao Ando. On a visit to Kahn's Kimball Museum in Fort Worth, Blanchard turned to Trahan and said, "I never realized that concrete could be so warm."

Concrete is warmed by the sun's rays. In St. Jean Vianney, it's the constant wash of light from the glass-panel walls, the apertures punched above the piers, the clerestory on which the roof floats, and the central oculus—and the abstract shadows cast by the frieze of surrounding trees—that give the church its sense of transcendence. "In Ando's work, light hitting on an angle bathes concrete like water on skin," Davis says. "We tried for the same effect here."

The ultimate effect at St. Jean Vianney is a modernism that invokes traditional stabilities and is blissfully unconcerned with the symbolisms of the immediate present or the ambiguities of contemporary life. "There's a real spiritual intensity because the design makes you focus on the essentials of the Mass," says building committee member Bill Cress. "The central plan brings you together like a family, against a backdrop of nature. And there are no details to cause your mind to wander. Sometimes less is more." And sometimes, as the gospel says, God is Light. ■

TRAHAN ARCHITECTS *continued from page 118*

ate choice of president Trey Trahan, 39, who founded the firm in 1990. "We recruit the top graduates from the southeastern architecture schools to avoid the disenchantment that seems inevitable with middle age," he says. "They make up in enthusiasm what they lack in experience, and they're more design-oriented.

"It was the lack of experience that got Trahan Architects the St. Jean Vianney commission. Father Blanchard said he chose us because we hadn't done a church, so we wouldn't bring preconceptions to the project," Trahan recalls.

It took Trahan's team three years to design the church and negotiate how to build it with the contractors. In the process they ate right through their fee and into pro bono territory to stay within budget. "When the client tells you that he'd like you to design the furnishings but he can't afford to pay you for it, well, we did it because minimalist architecture hinges on every detail," Trahan says. Those details include a slender altar table rather than a sacrificial block, and open-backed pews to maintain the visual transparency of the space. The interior won a 2000 Honor Award from the American Institute of Architects.

Trahan subsidized the lengthy design exploration for the church with profits from previous big-budget medical and sports projects. As he explains, "I try to alternate high design and financial stability every other year, to take a solvent firm to the highest level."

Affordable. Effective. Rewarding.

With Architectural Record and Architecturalrecord.com

Reach 250,000+ active architectural professionals at all stages of their careers. Recruit nationally and internationally. Combine Print and Online advertising to fill key positions quickly and effectively:

- **Promote your firm** as a great place to work in the magazine and on architecturalrecord.com
- **List your available jobs** in the magazine or on architecturalrecord.com
- **Create an on-line job fair** customized for your firm
- **Drive traffic** to your own website with your ad in the magazine or with links from architecturalrecord.com

For Recruiting Results, Call Ally Wingate at 1-800-484-4042, Ext. 3042.

ARCHITECTURAL RECORD
McGraw Hill Construction Information Group

A Division of The McGraw-Hill Companies

www.annsacks.com 1+800+969+5217

ANN SACKS

tile stone plumbing

CIRCLE 99 ON INQUIRY CARD

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

ANSWERS

Questions appear on page 170. To receive CES credits, fill in the education reporting form below or on our Web site (www.architecturalrecord.com).

1. A provider of professional liability insurance for architects reports that the most common building problems resulting in claims against architects are: roofs (10 percent), walls (9 percent), HVAC (7 percent), and floors (6 percent). Reasons for failures can be grouped under a few headings: faulty design, poor design management, failed communications, incomplete construction documents, equipment or material performance problems, poor building maintenance, and inferior workmanship.

2. The building forensic team documents the site conditions by taking photographs, interviewing witnesses, and sampling materials that are damaged or may have failed. All of these are carefully labeled and coded. From the materials that are gathered, as well as drawings, interviews with members of the AEC team, and others, they develop possible explanations for the failure. Their theories are then evaluated through lab testing of material samples, analysis of the building's systems, and additional site inspection. The data is further examined to determine the most likely reasons for the building failure.

3. A chain-of-custody for evidence is important in failures involving litigation. It helps investigators trace each piece of evidence to its location on the site and determine what was ultimately responsible for the building failure. Quite often this failure goes back to one specific structural element, the shop drawings for that design, the approvals, and the design changes or modifications.

4. Building commissioning is typically done to test mechanical and electrical systems right before opening a new building. Some owners now use commissioning during the design phase to ensure their buildings are designed and constructed for peak performance. It is a sort of trial run given to the building systems to determine if there are any system flaws that need to be adjusted before occupancy.

5. Architects can minimize common liability risks by working with the building owners and other team members to have the structure commissioned—adding up to 5 percent of the contract value for a complex project. Other less costly techniques involve selecting materials carefully to avoid incompatibilities and differing rates of expansion, advising clients of risks, being realistic about costs, taking a leadership role in coordinating design documents, seeking input from past clients and other designers, and being realistic in applying the budget and assessing how long the building and its materials will last.

AIA/CES EDUCATION REPORTING FORM

(Use to report learning unit hours earned for ARCHITECTURAL RECORD only.)

Member information:

Last Name **First Name** **Middle Initial or Name**

AIA ID Number

Program/project title: Architectural Record (08.00)

☐ "Sleuthing Out Building Failures" [page 163]

Completion date (M/D/Y): _______ / _______ / _______

AIA/CES Credit: Each article or sponsored section will earn you one AIA/CES LU hour of health, safety, and welfare credit.
Fill in: ____ total LU hours.

Material resources used:

Journal article or sponsored section: This article or sponsored section addresses issues concerning the health, safety, or welfare of the public.

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

Signature **Date**

Send completed form to University of Oklahoma, Continuing Education, AIA/CES, Room B-4, 1700 Asp Avenue, Norman, OK 73072-6400; fax 405/325-6965. To respond by E-mail, visit www.architecturalrecord.com and click on Continuing Education. For more information, call 800/605-8229.

ACCO Aerated Concrete Systems

a *system* of

solutions

ACCO is setting a new standard for Design/Build solutions that maximize the benefits of Autoclaved Aerated Concrete (AAC). As your partner, **ACCO** offers a full range of design, engineering and construction services, including a **7-Year Warranty** on products and workmanship.

ACCO
AERATED CONCRETE SYSTEMS
3351 West Orange Blossom Trail
Apopka, Florida 32712
407-884-0051 Fax 407-884-5111
TOLL FREE 1-888-901-2226

CIRCLE 101 ON INQUIRY CARD

Discover the ACCO advantages at **www.acco-aac.com**

ADVERTISERS INDEX

Bold: *indicates page number.*
Italic: indicates Reader Service Number.

PAGE NUMBER	READER SERVICE NUMBER	
57	*32*	3D WIN
243	*101*	ACCO/Aerated Concrete Systems
38	*20*	ACUI
237	*95*	Adams Rite Manufacturing Co
253		AIA Call for Entries
253		AIA Conference
245		AIA Online
210	*72*	Alera Lighting
16	*9*	Alusuisse Composites Inc
214	*75*	Amtech Corporation
46-47	*26*	Andersen Commercial Group
221	*80*	Ann Sacks Tile & Stone (plumbing)
241	*99*	Ann Sacks Tile & Stone (floors)
228	*86*	Arakawa Hanging Systems
193	*65*	Architectural Area Lighting
240		Architectural Record Recruitment
44		Architecturalrecord.com
51	*28*	Armstrong
7		Autodesk
213	*74*	B-K Lighting
37	*12*	BEGA
26	*14*	Bentley Systems Inc
31	*16*	Bidcom Inc
222	*81*	Birdair
195	*66*	Bruck Lighting Systems
2	*2*	Buzzsaw.com
56	*31*	Canterbury International
74	*39*	Ceco Door Products
23	*19*	Ceilings Plus
14-15	*8*	Celotex
86-87	*41*	CENTRIA Architectural Systems
162	*50*	Certified Forest Products Council
52	*29*	CNA/Victor O Schinnerer & Co Inc
167	*51*	Copper Development Association
40	*22*	CSI (PerSpective)
231	*90*	CSI (UDS)
212	*73*	DécorCable Innovations LLC
96-97		Dell
230	*88*	Doug Mockett & Company Inc
62	*34*	DuPont Fluoroproducts
45	*25*	Eagle Windows & Doors
186	*62*	Edison Price Lighting
41	*23*	EFCO Corporation
232	*91*	Electronics Diversified Inc
217	*78*	Engineered Lighting Products
182	*59*	Flos USA Inc
227	*84*	Follansbee Steel
139		Forms + Surfaces
180-181	*58*	Gardco Lighting
65	*35*	Georgia-Pacific
20-21	*11*	Glen Raven Mills Inc
176	*56*	Graphisoft
228	*85*	GSA
224-225	*82*	Hambro/Canam
175	*55*	Hanover Architectural Products
216	*77*	Hansgrohe Inc
226	*83*	Hoover Treated Wood Products Inc
234	*93*	ICBO/Internatl Conf of Bldg Officials
184	*60*	illuminating experiences
6	*4*	Inclinator Co of America
29	*15*	IWP
24-25	*13*	Kawneer Company Inc
185	*61*	Kim Lighting
12-13	*7*	Kinko's
42-43	*24*	KitchenAid
4cov	*100*	Kroin Incorporated
171	*53*	Laticrete International Inc
198	*52*	Light-Project Intl Inc
202-203	*68*	Lightolier
205	*69*	Lightolier
215	*76*	Lucifer Lighting Company
54	*30*	Madera Tile
140	*46*	Mannington Mills Inc
230	*89*	Marble Institute of America Inc, The
18-19	*10*	Marvin Windows & Doors
138	*45*	MBMA/Metal Building Mfrs Assn
239B	*98*	Mee Industries Inc
169	*67*	Meeker Cedar Products Ltd
233	*92*	Metal Construction Association
92	*43*	Metalaire
72	*38*	Mitsubishi Chemical America Inc
35	*18*	Morgan
238	*96*	Mortar Net
48	*27*	National Gypsum Company
160	*48*	National Terrazzo & Mosaic Assn
236	*104*	Nemetschek North America
239A		Northwest Energy Efficiency Alliance
186	*63*	Original Cast Lighting, The
76-77	*40*	PCI/Precast/Prestressed Concrete Inst
90	*42*	Pilkington Libbey-Owens-Ford
4-5	*3*	Pittsburgh Corning
8-9	*5*	PPG
208-209	*71*	Prescolite Moldcast
207	*70*	Prudential Lighting
179	*57*	Revit Technology Corporation
159	*47*	Sarnafil Inc
33	*17*	Sloan Valve Company
229	*87*	SMI Steel Products
187	*64*	SPI Lighting Inc
246-247	*102*	Sweet's, Div of The McGraw-Hill Cos
235	*94*	T Rowe Price
218	*79*	TEC
58	*33*	United States Aluminum
39	*21*	USG Corporation
3cov	*103*	Viking Range Corporation
172	*54*	Vistawall Architectural Products
238	*97*	Voli
66-67	*36*	Vulcraft, A Division of Nucor Corp
2cov-1	*1*	VT Industries
94	*44*	W&W Glass Systems Inc
161	*49*	Wausau Window and Wall Systems
10-11	*6*	Weather Shield Windows & Doors
70	*37*	Wiremold

For additional information on these advertisers, circle corresponding number on Reader Service Card, or visit our web site at www.architecturalrecord.com and click on Advertiser Information.

Executive Offices

The McGraw-Hill Companies
Two Penn Plaza
New York, NY 10121-2298

VICE PRESIDENT / PUBLISHER
Elaine Shusterman
(212) 904-3475 Fax: (212) 904-4652
shusterman@mcgraw-hill.com
Assistant: Monika Macezinskas

ADVERTISING DIRECTOR
David Johnson
(212) 904-6217 Fax: (212) 904-4652
dave_johnson@mcgraw-hill.com
Assistant: Joan Notaris

PRODUCTION MANAGER
Stephen R. Weiss
(212) 904-2793 Fax: (212) 904-6800
stephen_weiss@mcgraw-hill.com

PROMOTION DIRECTOR
Deborah Smikle-Davis
(212) 904-4558 Fax: (212) 904-6774
deborah_smikle-davis@mcgraw-hill.com

Advertising Sales

NORTHEAST / MID-ATLANTIC
Two Penn Plaza
New York, NY 10121-2298

Ted Rzempoluch
(212) 904-3603 Fax: (212) 904-4256
rzempoluch@mcgraw-hill.com

MIDWEST
One Prudential Plaza
130 East Randolph Street, Suite 400
Chicago, IL 60601-6213

Mike Gilbert (IL, IA, MN, MO, OH, W.PA, WV)
(312) 616-3338 Fax: (312) 616-3276
mike_gilbert@mcgraw-hill.com

Steve Roth (IL, IN, KS, MI, ND, NE, OK, SD, TX, WI)
(312) 616-3339 Fax: (312) 616-3276
stephen_roth@mcgraw-hill.com

SOUTHEAST / MID-ATLANTIC
4170 Ashford-Dunwoody Rd.
Atlanta, GA 30319

Susan Shepherd
(404) 843-4770 Fax: (404) 252-4056
sshepherd@mcgraw-hill.com

WEST (AZ, CA, CO, NM, NV)
Media Sales Associates
1750 Nantucket Circle, #134
Santa Clara, CA 95054

Bill Hague
(408) 492-9292 Fax: (408) 492-9797
(800) 830-4351 Fax: (253) 858-7576
billh@abptuf.org

WEST (BRIT. COLUMBIA, ID, OR, S. CA, UT, WA)
5901 S.W. Macadam Avenue, Suite 230
Portland, OR 97201

Bill Madden
(503) 224-3799 Fax: (503) 224-3899
billmad@msn.com

CANADA (EXCEPT BRITISH COLUMBIA)
48 Little Rebel Road, RR 3
Schomberg, Ontario L0G 1T0

Frank A. Spangenberg
(905) 939-0653 Fax: (905) 939-0654
spang@sympatico.ca

Manufacturers' Spotlight/Postcard Service

Ally Wingate
(800) 484-4042 ext 3042 Fax: (770) 889-9152
ally_wingate@mcgraw-hill.com

Classified Advertising

Ally Wingate
(800) 484-4042 ext 3042 Fax: (770) 889-9152
ally_wingate@mcgraw-hill.com

Editorial

(212) 904-2594 Fax: (212) 904-4256
www.architecturalrecord.com

Subscriber Service

(888) 867-6395 (USA only)
(609) 426-7046 Fax: (609) 426-7087
p64cs@mcgraw-hill.com

Back Issues

(212) 904-4635
phyllis_moody@mcgraw-hill.com

Reprints

(609) 426-5129 Fax: (609) 426-5472
doreen_bitowf@pubs.mcgraw-hill.com

AIA Convention & Expo

News

Reference

PIAs

The www.aiaonline.com Web for Architects

Member Directory

Conferences

Free Project Leads

e Institute

Product Information

Check it out–Today!

Classifieds

Continuing Ed

Employment

AIAONLINE™
NETWORK

e-Architect • AIA/Rizzoli Bookstore • Architects Channel • AIA Convention & Expo • Personal Products

Audited by BPA International.

THE AMERICAN INSTITUTE OF ARCHITECTS

25,000 products. 1,600 manufacturers.
One industry standard.
Sweet's.

Sweet's Group
McGraw-Hill Construction Information Group
A Division of The McGraw-Hill Companies

Reserve the most comprehensive product selection and specification resource in the AEC Industry, Sweet's System—2001 Edition—at special pre-release savings. Call 1 800 442-2258 or visit www.sweets.com now.

The fully-integrated, multi-media *Sweet's System—2001 Edition.*

Find the right product for your project, conveniently and quickly with *Sweet's System–2001 Edition*.

Sweet's is far and away today's leading resource for AEC professionals. In fact, ***97% of all architects use Sweet's as their primary product information source.**** Sweet's provides detailed information, specifications and technical data on more than 25,000 building products from over 1,600 manufacturers.

Sweet's System is more than just the comprehensive bound catalog files. It's a battery of integrated multi-media components, in print, digital and electronic forms, all designed to work as a system to meet the many needs of your design team.

Nothing makes it easier to search, select and specify building products.

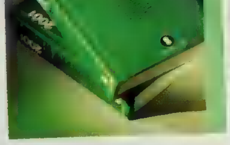
Reserve Sweet's now and you'll get the 2001 Edition at a special pre-release discount. Plus you'll also begin receiving the current 2000 editions of *Sweet's CD* and *Sweet's Product News*. **Call 1 800 442-2258** or visit **www.sweets.com** now to secure your *Sweet's System–2001 Edition. (Please refer to 5AAR1 when you call.)*

When you need product information, the *Sweet's System* is all you need.

**Independent Market Survey: Hase/Schannen 1999.*

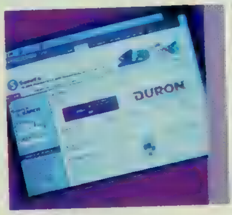
CIRCLE 102 ON INQUIRY CARD

Sweet's
Construction's Product Marketplace



Sweet's Catalog Files

Sweet's CD



sweets.com

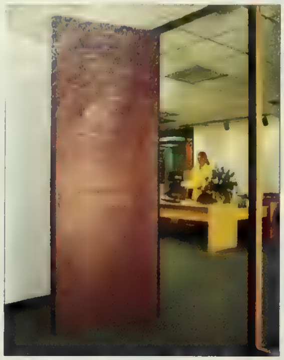
Sweet's Directory

Sweet's Product News

Sweet's BuyLine® Service

[illegible] — F: (770) 889-9152
E-mail: Ally Wingate@McGraw-Hill.com

Applications



The new flush exit device is designed for use on TOTAL DOORS in single, pairs & double egress pairs. Ideal for corridor & elevator lobby applications in all commercial facilities. The exit device allows continuous, uninterrupted sight-lines in corridors when doors are pocketed in the open position. Its quiet operation is ideal anywhere noisy hardware is a problem. TOTAL DOORS can be retrofitted into existing door frames, saving time & expense.

Openings

CIRCLE 150 ON INQUIRY CARD

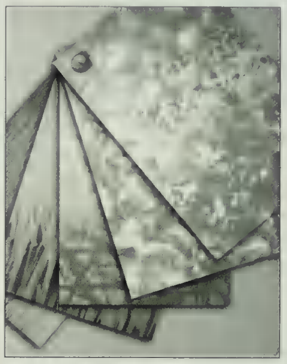
Concrete Waterproofing by Crystallization

Applied as a slurry coating Xypex is a chemical treatment that waterproofs by penetrating the concrete with a crystalline formation that "plugs" the pores of the structure preventing water seepage. Xypex is ideal for use on the "inside" of wet underground structures.

Xypex Chemical Co.

CIRCLE 151 ON INQUIRY CARD

Alpha Collection 2000 Aluminum-Stainless Steel



New and innovative design patterns and textures. Ideal for most vertical surfaces. Border to border standard sizes. Thickness from 0.025" to 0.064". Quantity discounts and free design consulting. Ask us about our custom capability. SD+T Marketing INC., Phone: 305-856-3825 TollFree: 877-626-2595 Fax: 305-856-1287 Email: sales@sdtmarketing.com Web: www.sdtmarketing.com

SD+T Marketing Inc.

CIRCLE 152 ON INQUIRY CARD

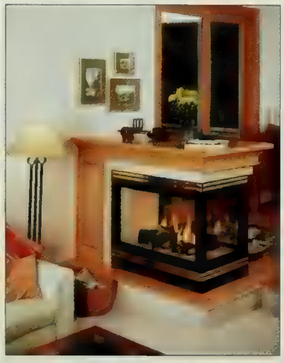
ADA Insulation Safety Covers

Plumberex Specialty Products, Inc. is the only company that manufactures a complete line of ADA safety covers for commercial & residential applications, meeting all building & fire codes with a -0- smoke rating. The Handy-Shield™ Safety Cover is the one and only ADA safety cover on the market with a "Dual" fastening system to help deter theft! For more information call 800-475-8629, Website: www.plumberex.com or email: plumberex@earthlink.net

Plumberex Products, Inc.

CIRCLE 153 ON INQUIRY CARD

Three-Sided Fireplace for Unlimited Installations



Heat-N-Glo introduces model PIER-TRC, a three-sided direct vent fireplace that can be terminated vertically or horizontally to accommodate nearly any application. The PIER-TRC is perfect as a room divider, bar, end of counter or a wide variety of creative installation possibilities. As with all Heat-N-Glo fireplaces, the PIER-TRC can be operated by remote control for the ultimate in convenience. Call 888-427-3973.

Heat-N-Glo

CIRCLE 154 ON INQUIRY CARD

Decorative Grilles

Unusual visual effects emerge when our grilles are designed for area effects. Versatility is the theme. R&G offers architects and interior designers many ways to express the changing forms of metal with the integrity of R&G's architectural grilles. Custom or standard finishes are available plus any grille can be made in matching color to blend with your decor. 202 Norman Ave., Bklyn, NY 11222. 800-521-4895, Fax: 718-349-2611.

Register & Grille Mfg Co.

CIRCLE 155 ON INQUIRY CARD

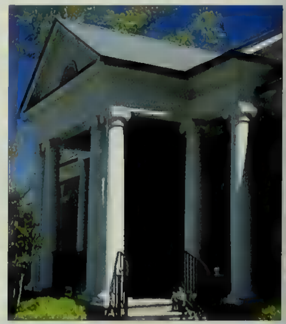
Ornamental Picket Fence with a Purpose

We have given special attention to each & every component of our fence. Every item is designed for strength, durability and low maintenance. No other company builds a complete fence — rail, rivets, brackets, pickets and posts, that is stronger, more durable, have more security or lower maintenance costs than our fences. Monumental Iron Works, 6500 Eastern Ave., Baltimore, MD 21224. Tel: 410-633-6500, Fax: 800-239-2963.

Monumental Iron Works

CIRCLE 156 ON INQUIRY CARD

Chadsworth's1.800.Columns® www.columns.com



Columns, pillars, pilasters and posts available in wood, PolyStone™ and fiberglass. Interior, exterior. Variety of sizes and styles. Competitive prices. Jobsite delivery. Worldwide shipping. Our award- winning Idea Book features an exciting collection of column projects. Includes Columns Product Portfolio, $20 soft cover, $30 hard cover. Columns Product Portfolio $5 (credited to first order). Free flier. 800-486-2118 ▪ Telefax 910-763-3191

Chadsworth's 1.800.Columns®

CIRCLE 157 ON INQUIRY CARD

ADVERTISEMENT

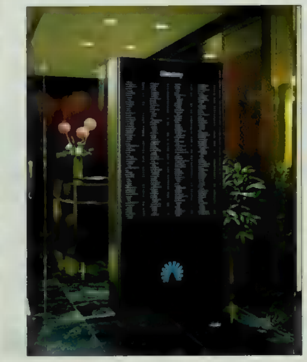
Luxalon Wide Panel Systems

The revolutionary ceiling system offers nominal 12" (300mm) wide panels in lengths up to 19'0" creating a clean sophisticated, monolithic ceiling plane. Long spans are available with a soft beveled edge or a reveal edge. The system provides both acoustics and aesthetics with easily installed panels. Available in 8 finishes and 2 perforation patterns. For further information call 800-366-4327.

Hunter Douglas

CIRCLE 158 ON INQUIRY CARD

Illuminated Directory

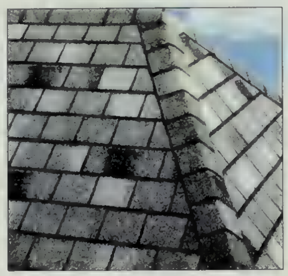


APCO's award winning Visulite® directory is the finest in illuminated directories. Text and graphics appear to suspend in the background through the use of tinted solar glass and negative graphics that are evenly illuminated by fluorescent light. Changeable graphics are housed in cartridges designed to prevent light leaks. Visulite® is offered in a variety of finishes with eight attractive door shapes. APCO Graphics, Inc., (404) 688-9000, E-mail: sales@apcosigns.com, Web: www.apcosigns.com

APCO Graphics, Inc.

CIRCLE 159 ON INQUIRY CARD

Hatteras®

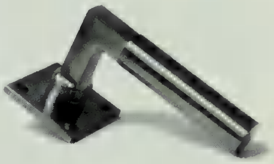


An oversized 18" x 36" fiberglass asphalt shingle designed to withstand hurricane force winds. Features a dramatic eight-inch exposure; deep one-inch shadow lines; seven colors; and a 40-year limited warranty, including 10-year warranty coverage against winds up to 110 miles per hour. UL certified to meet ASTM D3462 performance standards; Miami-Dade approved; algae resistant.

CertainTeed

CIRCLE 160 ON INQUIRY CARD

NANZ®



The No. 2006 is a Bauhaus handle based on a Walter Gropius design. Nanz manufactures this and a wide range of other levers, knobs, locks, hinges and cabinetry hardware. Fax a request for our free Product Selection Guide or our $20 catalogue featuring this and over seventy other handles. Phone 212-367-7000, fax 212-367-7375. www.nanz.com

Nanz Custom Hardware Inc.

CIRCLE 161 ON INQUIRY CARD

Dodge-Regupol Launches ECOsurfaces™

Dodge-Regupol (DRI), the world's largest converter of post-consumer tire rubber, launches ECOsurfaces™, xtreme recycled rubber™ flooring for both indoor & outdoor commercial applications. Not only environmentally sound, but also available in 38 vibrant colors, ECOsurfaces in rolls & tiles responds directly to designers' needs & their budget concerns. For a fresh new colorful way to create attractive environments, call Gerbert Ltd. at 877-ECO-surfaces (877-326-7873).

Gerbert Ltd.

CIRCLE 162 ON INQUIRY CARD

Decorative, Thin-Film Intumescent Fireproofing

Improved spray characteristics & ratings up to 3 hours! A/D FIREFILM®II permits designers to use the appearance of exposed steel with the steel protected from fire. The product is applied as a thin-film coating 0.4 to 3.3 mm (16 to 130 mils) thick. When exposed to fire it expands to form a meringue-like insulating layer up to 4 in. thick. A/D COLORCOAT topcoat is available in a wide range of colors. Call 800-263-4087 or 416-263-4087. Internet: www.adfire.com. See us in Sweet's.

A/D Fire Protection

CIRCLE 163 ON INQUIRY CARD

Concord Horizon-The Commercial Accessibility Solution

The Horizon is one of Concord's fully enclosed elevators. Its innovative cable hydraulic drive system delivers reliable, quiet & smooth operation while serving two to six stops. The Horizon is the ideal commercial accessibility solution for the physically disabled. Standard features include emergency battery powered door operation & lowering, a slack cable safety device, & emergency cab lighting. For information, please call 800-661-5112 or visit us at www.concordelevator.com

Concord Elevator Inc.

CIRCLE 164 ON INQUIRY CARD

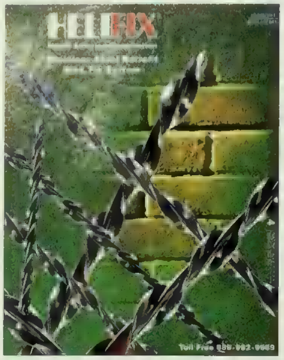
Melton Classics

Melton Classics architecturally correct columns, balustrades, and architectural details, are the industry standard for quality, yet are affordably priced. Columns are available in fiberglass, resin composite, and wood. MarbleTex™ Balustrades and Columns are integrally colored and require no painting. Ask us about our complete line of architectural elements in MeltonStone™ cast stone. 800-963-3060, web site www.meltonclassics.com

Melton Classics

CIRCLE 165 ON INQUIRY CARD

Stainless Steel Retrofit Wall Tie System



The unique Helifix 'DryFix' stainless steel remedial wall tie system is used to stabilize and strengthen masonry walls in both high rise and domestic buildings. The 'DryFix' system involves no toxic chemicals or complex expander devices while providing a fast, cost effective, stress free result in most common building materials. Helifix ties may also be used in new construction and masonry refacing. Call 888-992-9989 for further information.

Helifix

CIRCLE 166 ON INQUIRY CARD

Matrix Composites Inc.

MADERA
Solid Surface Tile

Chosen by a distinguished panel of Architects for Architectural Record as one of the best new finishes for 1999, Madera Tile is made from an exciting new material known as Lignasil®. Using 100% post-use hardwood in a patented process, Madera forges new ground in "green" building material technology. Several textures are available in an exciting range of solid colors and unique color blends for your sustainable design solutions. Call 800-767-4495. www.maderatile.com

Matrix Composites Inc.

CIRCLE 167 ON INQUIRY CARD

Interactive Whiteboard

The Rear Projection SMART Board™ is an interactive whiteboard that allows you to control projected Windows® or Macintosh® applications and other multimedia by pressing on the Board's large, touch-sensitive surface. Write over top of applications and your notes are saved for future reference and distribution. Architects and facility designers can request the SMART Product Kit by calling 888-427-6278 or by visiting www.smarttech.com/productkit

SMART Technologies Inc.

CIRCLE 168 ON INQUIRY CARD

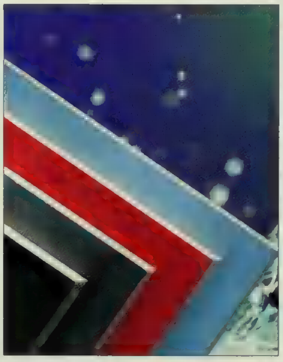
Birds Take Flight From Nixalite!

Preserve architecture treasures with Nixalite bird control. Effective and humane, these stainless steel strips provide a protective barrier that is long lasting and inconspicuous. With the addition of Colorcoat™, a color powder coating option, Nixalite is almost invisible. For information, call 800-624-1189, Fax 309-755-0077 or visit our website at www.nixalite.com

Nixalite® of America Inc.

CIRCLE 169 ON INQUIRY CARD

Duraflake MR® Particleboard

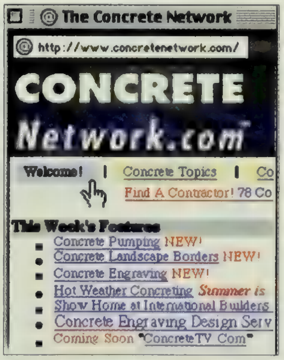


Architects specify Duraflake MR® moisture-resistant particleboard for cabinets and counters where humidity and intermittent water contact is common. Duraflake MR is stronger, absorbs less moisture, and exhibits minimal thickness swell compared to standard particle-board. Third-party manu-facturers offer a wide variety of laminated surfaces. Call and we'll send you a FREE Duraflake Specifications Binder. 1-800-887-0748, Ext. 310

Willamette Industries, Inc.

CIRCLE 170 ON INQUIRY CARD

Concrete Information & Buyers Guide



The Concrete Network

http://www.concretenetwork.com/

CONCRETE Network.com™

Welcome! | Concrete Topics | Co

Find A Contractor! 78 Co

This Week's Features

- Concrete Pumping NEW!
- Concrete Landscape Borders NEW!
- Concrete Engraving NEW!
- Hot Weather Concreting *Summer is*
- Show Home at International Builders
- Concrete Engraving Design Serv
- Coming Soon "ConcreteTV Com"

Research 40 concrete topics: countertops, pavers, ICF's, pool decking, decorative, etc.

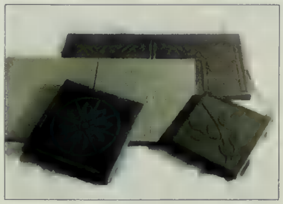
Locate 78 concrete services/ products in over 200 US Metro areas in the buyers guide. Includes hard to find items such as fireplace surrounds, concrete animals, interior floors, play courts, site furnishings, slab jacking, etc.

Free e-mail newsletter.

ConcreteNetwork.com

CIRCLE 171 ON INQUIRY CARD

Make a Great Impression



New from Wausau Tile, Inc., our new "Impression" pavers and tree surrounds. A wide variety of precast patterned manufactured to match most Wausau Tile pavers colors and finishes. Pavers available in 18" and 24" square, tree surrounds in 24" square with 12" square tree opening and 30" square with 18" tree opening. Contact Wausau Tile for more information. Call 800-388-8728.

Wausau Tile

CIRCLE 172 ON INQUIRY CARD

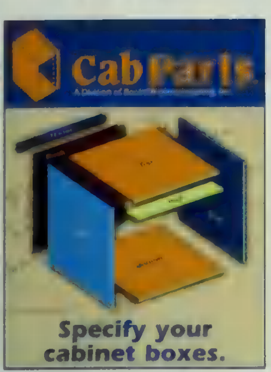
Metal Building Product Systems from Centria Int'l

Centria Int'l is one of the world's leading suppliers of metal building product systems for architectural, commercial & industrial buildings applications. Our wall, floor & roof capitalize on the design freedom, durability & economy of metal structures while our team of engineers provide customized service at any project phase. No matter where in the world your next project may be located, rely on a century of experience from Centria Int'l. Visit www.centriaintl.com or call 800-759-7474.

CENTRIA International

CIRCLE 173 ON INQUIRY CARD

Specify This.

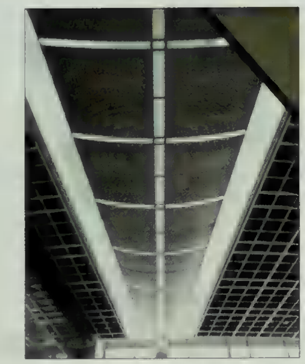


Did you know one of the most cost-effective ways to produce high-quality, frameless cabinet systems is CabParts? With over 1,500 sizes and types of cabinet boxes, CabParts are easily assembled to produce cabinet installations of superior quality. Precisely dimensioned, fixed pricing and high-density shipping mean you have more control over Division 6000 results than possible through alternatives. Call 970-241-7682 or visit our website for the full story. www.cabparts.com

CabParts

CIRCLE 174 ON INQUIRY CARD

Aluma-Vault from Gordon, Inc.

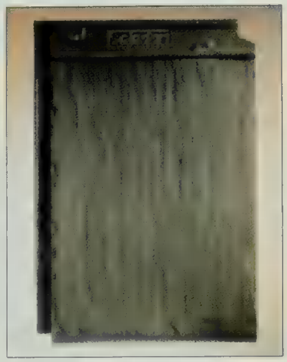


Curved freeformed or vaulted, endless design options are yours with Aluma-Vault ceiling systems. Aluma-Vault is a 3-dimentional decorative ceiling that incorporates custom panels into a curved suspension system. This unique product utilizes the crisp aesthetics of extruded aluminum to create smooth runs of gently curved or undulating ceilings.

Gordon, Inc.

CIRCLE 175 ON INQUIRY CARD

Celadon™ Ceramic Slate™



A kiln-fired, interlocking clay roof tile designed to look like thick slate with an average breaking strength of 300 pounds; impervious to freeze-thaw degradation with an average of 1% moisture absorption; color will not fade, flake, or effloresce–offered in slate gray, slate red, montpelier green, plumstone, and brunswick black. Sixty-year limited, transferable warranty. 1-800-CEL-SLATE. www.certainteed.com.

CertainTeed Corporation

CIRCLE 176 ON INQUIRY CARD

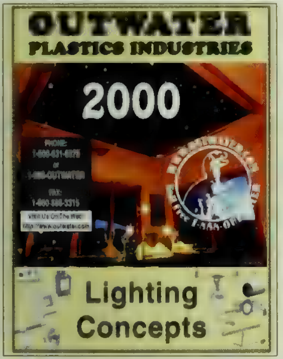
Site Furniture of Distinction

Keystone Ridge Designs, Inc. is the architect's choice for premier site amenities. Offering a full line of steel furnishings, we pride ourselves on exclusive designs and our patented powder coat finish, KEYSHIELD™, that is unparalleled in the industry. Quality, craftsmanship, and dedication to your creative vision are the hallmarks of Keystone Ridge Designs. For more information please call 800.284.8208 or e-mail KeystonRdg@aol.com. www.keystoneridgedesigns.com

Keystone Ridge Designs

CIRCLE 177 ON INQUIRY CARD

Outwater Lighting Concepts

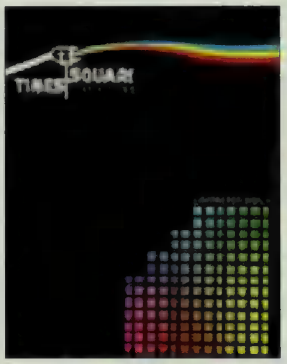


Low-Voltage Halogen Lighting; Fiber Optic Lighting; Track Lighting; Recessed Lighting; Showcase Lighting; Shelf & Under Cabinet Lighting; Exhibit & Picture/Portrait Lighting; Cove Moulding Lighting; Task Lighting; Canister Lighting; Swivel Lighting; Adjustable Spotlights; Linear Lighting; Ambient Lighting; Curio Lights; Fluorescent Lighting; Rope Lighting; All Related Accessories. Free Catalog 888-OUTWATER; Web site: www.outwater.com

Outwater

CIRCLE 178 ON INQUIRY CARD

Lighting Fixtures



Times Square Lighting's condensed catalog contains our complete line of line and low voltage specification grade lighting fixtures. Numerous mounting options as well as accessories for our fixtures are available. Times Square Lighting, Rte. 9W, Stony Point, NY 10980, 914-947-3034.

Times Square Lighting

CIRCLE 179 ON INQUIRY CARD

Timeless American Design ©2000 FLLWFDN

Taliesin®-1 Lamp, designed by Frank Lloyd Wright® in 1925. Taliesin®-Mini, adaptation of original design. Available in several finishes. Yamagiwa is the sole licensee of the FLLWFDN authorized to produce lighting. Other types, floor lamps, wall sconces, and pendants available. www.yamagiwausa.com PH: 800-879-8611, 31340 Via Colinas, #106, Westlake Village, CA 91362

Yamagiwa USA Corporation

CIRCLE 180 ON INQUIRY CARD

Scala-3

Scala-3, a fashionable new design by Charles Loomis, Inc., radiates sophistication and simplicity with just a touch of whimsy. Available with etched opal acrylic, off-white linen and Aramid diffusers. Fluorescent and incandescent lamping options are available. Scala-3 is U.L. listed and ADA compliant. Contact Charles Loomis, Inc., at 800-755-0471 for more information.

Charles Loomis, Inc.

CIRCLE 181 ON INQUIRY CARD

T: 800-464-4912 ext.3042 — F: (770) 889-9152
E-mail: Ally_Wingate@McGraw-Hill.com

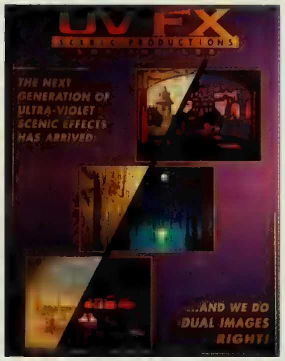
Cast Aluminum Lighting

Sun Valley Lighting manufactures an extensive line of Standard & Custom cast aluminum lighting poles & fixtures in all period styles. Our 50 years of design & manufacturing experience provides you with unexcelled product quality. Our staff of designers, engineers, and tool makers are here to assist you. Our in-house foundry assures quality and prompt delivery at competitive costs.

Sun Valley Lighting

CIRCLE 182 ON INQUIRY CARD

UV/FX Scenic Productions


UV FX
SCENIC PRODUCTIONS
THE NEXT GENERATION OF ULTRA-VIOLET SCENIC EFFECTS HAS ARRIVED!
...AND WE DO DUAL IMAGES RIGHT!

UV/FX wrote the book on Ultra-Violet Visual Effects which are designed, art directed and painted (and now even printed). UV/FX specializes in Dual Images, Complete Invisible treatments, Day to Night Effects, 3-D scenery and more for changing themed walls, backdrops and ceilings. www.uvfx.com, Tel/Fax 310-392-6817.

UV/FX

CIRCLE 183 ON INQUIRY CARD

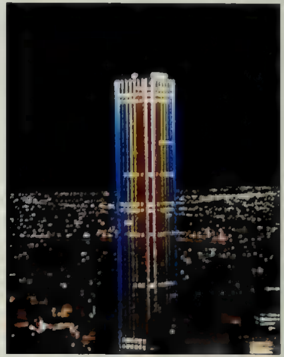
Decorative Posts & Poles

More than 30 years of experience comes together in each Hapco aluminum pole design. The Abingdon, Va., based company is an engineering leader with in-house design analysis and testing facilities. Hapco specializes in conventional and decorative lamp posts and architectural street light poles. Mounting heights range from eight to 45 feet.

Hapco

CIRCLE 184 ON INQUIRY CARD

Xenon Luminaries

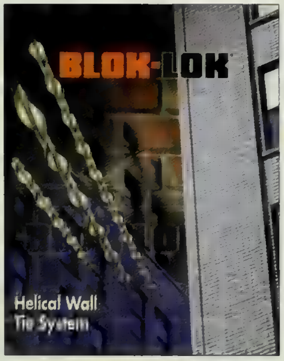


Space Cannon Illumination Inc. introduces the Litehose, the latest in linear lighting technology made of extruded, durable optical-grade acrylic. Available in different diameters and sizes, reflective paints and films are not required. The Focus is an architectural colored luminarie utilizing a 1200w lamp source designed to work with the Litehose or separately. 888-705-1028.

Space Cannon

CIRCLE 185 ON INQUIRY CARD

Stainless Steel Helical Wall Tie System

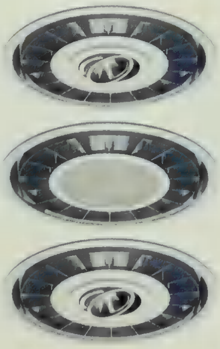


Blok-Lok, with over 35 years experience in the design & manufacture of masonry reinforcing and tie systems, provides innovative solutions for the repair & stabilization of defective walls. Blok-Lok offers an economical stainless steel helical wall tie that is driven into position through a properly sized pilot hole, providing a positive connection between wythes, while allowing for differential movement. Call 800-561-3026 or visit our website at www.blok-lok.com

Blok-Lok, Limited

CIRCLE 186 [illegible] INQUIRY CARD

CircLet

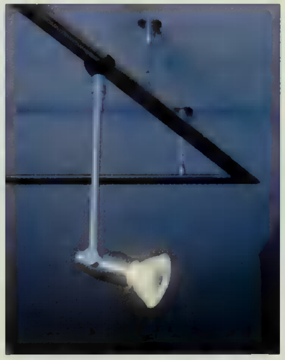


Wila Lighting introduces CircLet, a revolutionary multifunctional downlight utilizing the circular T5 lamp. CircLet's modular construction allows integration of speakers, video cameras, accent lights, smoke detectors, and fire sprinklers in the center "free space" of the fixture, which eliminates ceiling congestion. www.wila.com

Wila Lighting, LLC

CIRCLE 187 ON INQUIRY CARD

Boa Two-Circuit Track System

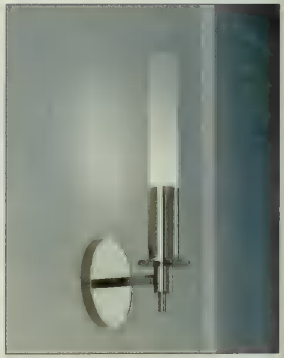


Bruck Lighting, the international leader in innovative low-voltage cable and track systems, introduces Boa, a low-voltage two-circuit track system with dual switching ability. Boa may be suspended or flush mounted, installed vertically or horizontally and is available in chrome or matte chrome. All Bruck Uni-lights fixtures can be utilized with Boa as well as all seven other Bruck track systems. www.brucklighting.com

Bruck Lighting Systems

CIRCLE 188 ON INQUIRY CARD

Doyle Crosby's "Mercury"



Architecturally elegant and ADA compliant, the "Mercury" sconce is a striking source of decorative lighting. The solid brass stem is crowned with a glowing frosted glass chimney or with a fine linen shade for more traditional settings. Finished in polished nickel, polished brass or satin nickel. www.boydlighting.com

Boyd Lighting

CIRCLE 189 ON INQUIRY CARD

the american institute of architects 2001

honor awards

ARCHITECTURE
Entry deadline: August 4, 2000
Submission deadline: September 1, 2000

INTERIOR ARCHITECTURE
Entry deadline: August 18, 2000
Submission deadline: September 15, 2000

REGIONAL & URBAN DESIGN
Entry deadline: September 8, 2000
Submission deadline: October 6, 2000

TWENTY-FIVE YEAR AWARD
Submission deadline: September 1, 2000

Call 202.626.7586 for detailed entry information, or go to www.aiaonline.com.

CELEBRATING THE BEST IN CONTEMPORARY ARCHITECTURE

the architecture
twenty-five interiors
year award urban design

The Smith House: Architect–Richard Meier & Partners; Owner–Carole Littlefield; Photographer–Ezra Stoller and Scott Frances/Esto

AIA

Justice Facility
Partnerships

Save the Date! ➔

Charlotte, North Carolina
October 5–7, 2000

SPONSORED BY THE AIA COMMITTEE ON ARCHITECTURE FOR JUSTICE

- Three-day conference focusing on Justice Facility Partnerships and Leading-Edge Justice Technology
- Multiuse, regional, and multijurisdictional facilities and public-private partnerships
- Trends in justice technology: security electronics, hardware and software, premanufactured cells and modular construction
- Charrette with architecture students from the University of North Carolina in Charlotte on design of a justice facility
- Tour of Mecklenburg County Jail and Courthouse Complex

Look for your registration brochure this summer.
Conference information will be available on the AIA's Web site in July 2000 (www.e-architect.com/pia/caj).

AIA

POSITIONS VACANT

PROJECT MANAGER
ARCHITECTURAL DESIGNER
PROJECT ARCHITECT

3D/International has opportunities across the U.S. for bright, energetic people. We're always on the lookout for the brightest and the best. We hope you'll find 3D/I the place where we can accomplish our goals together, and have fun doing it. For more information about opportunities with our organization, please visit our web site at www.3di.com or e-mail your resume to garner@3di.com. Be sure to include the state(s) or region(s) you are interested in with all correspondence.

WILLIAM MCDONOUGH + PARTNERS

Exceptional opportunities on a variety of international projects. Competitive benefits/compensation. Archt's w/3+ yrs exp., CAD Mangr, Urb. Designers. Microstation exp. helpful. Charlottesville, VA. Letter/resume: jobs@mcdonough.com or fax: 804/979-1112

INTERIOR DESIGNERS/ARCHITECTURE/ FURNITURE DEALERSHIPS

American Personnel specializes in corporate designers and furniture specialists, established since 1969, are in constant search for prospective employees, to fill our various job opportunities with our national clients. Project Managers/Ast. Project Mgrs/Sales Associates/Sales Asts./AutoCAD Operators/administrative Support /Entry-level Designers. Clients are based out of New York City, New Jersey, and other locations. For more details on our services, please feel free to call Frank Cassisa - Executive V.P., Ph: 212-233-2900, Fax: 212-233-3043 or after 7pm at 732-360-0655.

INTERN ARCHITECT - MULTIPLE OPENINGS

Under supervision of licensed architect, perform preliminary architectural design, computer-aided drafting, using AutoCAD (2D & 3D), Adobe Photoshop 5.0, Microsoft Powerpoint & Microstation (2D & 3D), detailing, freehand sketching, color rendering & computer-generated 3-dimensional conceptual models; prepare schematics & design development drawings; develop structural physical models; coordinate with structural, mechanical, electrical & plumbing drawings; & prepare construction drawings & documents. Must have demonstrated ability to perform stated duties by portfolio. Req: Bachelor of Engineering/ Architecture or foreign degree equiv in Architecture or related discipline plus 3 yrs exp in job offered or 3 yrs in related occupation as Architectural Assistant, Design Architect or any suitable combination of edu, training, and/or exp. Salary: $35K per yr. 8:30 am to 5:30 pm, M-F. Send resume to Urban Design Group, Inc., 2410 Paces Ferry Rd., Suite 270, Atlanta, GA 30339. Ref: WZ001.

PROJECT ARCHITECT

Project Architect wanted by Building Construction Co in New York, NY. Must have Bach in Architecture & 2 yrs exp checking specifications for jobs, reading blue prints, city codes, regulations, fire codes & materials. Must work under supervision of a licensed architect. Respond to: HR Dept, Phoenix Builders, Inc., 252 Front St, New York, NY 10038.

ADMINISTRATIVE ASSISTANT

Architectural Services: Assist Architects to prep construction docs, plumbing/sprinkler plans, & to provide engineering systems coordination. Provide communication paths between Architects and clients. Job is in North Miami Beach, FL. Req: Bachelor's in Architecture and 2 yrs exp in position or 2 yrs as Architectural Designer/Associate/Project Manager or related exp. $37,762/yr, 40hrs/wk. 8:30am-5:30pm. Submit resume to Bureau of Workforce Program Support, P.O. Box 10869, Tallahassee, FL 32302-0869. Re: JO#-FL 2093788.

LABARGE ENTERPRISES

Registered Architects and Architect Engineers' for Design-Build projects in TV-Broadcast Studios, Hospital and Health Care, E-Commerce Buildings data processing and call centers and telecommunication facilities. Positions nationwide — fax 972-980-0090 website www.hardhatjobs.com

ARCHITECTS/TECHNICIANS

Architects & technicians with interest in theatre design and working with leading architects for Connecticut based international theatre consultants. Fax resume to Brian Hall, Theatre Projects, 203-431-4790. Visit our website at www.tpcworld.com

TECHNICAL DIRECTOR

San Diego's leading Architecture and Interiors firm, located in the historic Marina District of downtown San Diego, seeks qualified candidate for high-level management position. Architect with minimum 10 years commercial experience required. Candidate must possess strong organizational skills, a thorough knowledge of construction documents, permitting, ADA and AutoCAD. Outstanding benefits and work experience. E-mail resume to jhoward@howard-sneed.com

ARCHITECT/SPEC. WRITER
PROJECT MANAGER/ARCHITECT

Reese, Lower, Patrick & Scott, a nationally known 85-person practice, is seeking to make two unique additions to our staff. Architect/Spec. Writer: Architect registration, minimum 3-5 yrs. experience in preparing/ editing specs, and good working knowledge of writing specs and CSI fundamentals are req'd. Candidates should have extensive knowledge of construction materials and systems, AIA MasterSpec, and experience in editing specs on screen with Word97. Project Manager/Architect: with at least 5 yrs. experience; strong organizational skills required; knowledge of CAD, building construction, contract documents. Our practice specializes in seniors' housing and educ. facilities. We offer a national design reputation, an attractive work environment, and sophisticated computer support. Resumes to 1910 Harrington Dr., Lancaster, PA 17601; www.rlps.com

REQUEST FOR LETTERS OF QUALIFICATION

Stephens College in Columbia, Mo., seeks an architectural firm for a design/build project involving the restoration/ remodeling of Lela Raney Wood Hall, a 1937 masonry building with 55,000 square feet. Stephens is converting this former residence hall to mixed administrative office use and will retain its ballroom. Stephens is a private, liberal arts college for women located halfway between St. Louis and Kansas City. To acquire a fact sheet, please send a letter of interest to: LRW Project, Stephens College, Campus Box 2035, 1200 E. Broadway, Columbia MO 65215. www.stephens.edu. Deadline for receipt of qualifications: September 1.

ARCHITECT WANTED

Architect wanted by Architectural Firm in Arlington, VA. Must have Bach in Architectural Engg or related field & 4 yrs exp. Respond to: PageSoutherlandPage, 2107 Wilson Blvd, Ste 410, Arlington, VA 22201-3008. Attn: Mr. James Wright

COLORADO

You know you want to.
The AIA Colorado Job Board. www.aiacolorado.org

TO ADVERTISE

Ally Wingate at
T: 800-484-4042 ext.3042 — F: (770) 889-9152
E-mail: Ally_Wingate@McGraw-Hill.com

MICHAEL LATAS & ASSOCIATES

Executive search and professional recruiting services. Serving the construction industry exclusively nationally and internationally since 1975.

Your premier source for executive, managerial, and difficult-to-fill professional-level needs.
Contact our Architecture/Engineering Division.

Michael Latas & Associates
1311 Lindbergh Plaza Center
St. Louis, MO 63132

(314) 993-6500 • Fax: (314) 993-0632
(800) 280-7811 • http://www.Latas.com

BUSINESS OPPORTUNITIES

FIRM FOR SALE

20 year firm in a growing NE Florida Coastal Community specializing in high end custom homes and design intensive commercial work. Beautiful location. Includes current client base, contracts, and assets. Excellent staff. Call (888) 312-9605. Leave message. All calls will be returned. Confidentiality a must.

RENDERINGS

ARCHITECTURAL RENDERINGS

Fortune 500 clientele, Watercolor: 11" x 17" $1,499 + tax, 3 days. 12" x 22", $2,899 + tax, 5 days. Visa, MC, AmEx. Mayron Renderings, (212) 633-1503 or (800) 537-9256. Email: mayronrend@rcn.com

SPECIAL SERVICES

GreenwayConsulting

(800) 726-8603
www.GreenwayConsulting.com

Premier Research, Consulting and Publishing for A/E/C Entrepreneurs

strategic planning • surveys & research • executive searches
market analysis • succession planning • meeting facilitation

belief in a "better way" to achieve business and personal success

Washington, D.C. • Atlanta, GA • Chicago, IL • Since 1982

COMPUTER SERVICES

Power, Functionality & Attention to Detail

...Abundant 2D Tools; Easy to Learn and Use...
...Powerful and Useful...
Cadalyst Magazine, October 1996

Call (800) 247-2032 for Free Working Demo

FLATLAND 6... Serious Two Dimensional Drafting for Building Design Professionals

Ashcraft Architectural Computer Graphics
220 Glen Street, Glens Falls, NY 12801 (518) 798-4631 (800) 247-2032

Circle 190 on Inquiry Card

ARCHITECTURAL RECORD: (ISSN 0003-858X) Vol. 188, No. 8. Published monthly by The McGraw-Hill Companies, 1221 Avenue of the Americas, New York, N.Y. Periodicals postage paid at New York, N.Y. and additional mailing offices. Canada Post International Publications Mail Product Sales Agreement No. 246565. Registered for GST as The McGraw-Hill Companies. GST No. R123075673. **POSTMASTER:** *Please send address changes to* ARCHITECTURAL RECORD, Fulfillment Manager, P.O. Box 566, Hightstown, NJ 08520. **SUBSCRIPTION:** Rates: U.S. and Possessions $59; Canada and Mexico $79 (payment in U.S. currency, GST included); outside North America $199 (air freight delivery). Single copy price $8, for foreign $10.

University of Arizona

Faculty Positions

The School of Architecture at the University of Arizona invites applications for three tenure-track or visiting positions. The School offers accredited B.Arch. and post-professional M.Arch. degrees that emphasize an ethical approach to the natural and cultural environment and integrate construction and computer laboratories with conventional methods of the design studio. Its setting in the Sonoran Desert provides a unique practical laboratory that can help forge and temper an architectural education conceived and delivered within the aspiration toward a genuine American land ethic ~ research aesthetic:

The life of the desert lives only by virtue of adapting itself to the conditions of the desert…those things that can live in the desert become stamped after a time with a peculiar desert character. The struggle seems to develop in them special characteristics…more positive, more insistent…

John C. van Dyke, THE DESERT: Further Studies in Natural Appearances

Computer Modeling & Architectural Design: Assistant or Associate Professor, depending on qualifications. The successful candidate must be qualified to teach architectural design studio with emphasis on computer analysis and modeling. Additional teaching and research responsibilities will include curriculum development of advanced required and elective computer topics. Fundamental to this position will be an experimental pedagogical approach that engages the computer in the analysis, generation and testing of architectural elements, structure, material properties and environmental determinants of form by means of digital and analog technologies. Requirements: Master of Architecture with demonstrated practical computer expertise and ingenuity. Desirable qualifications: Teaching, practical experience and professional registration.

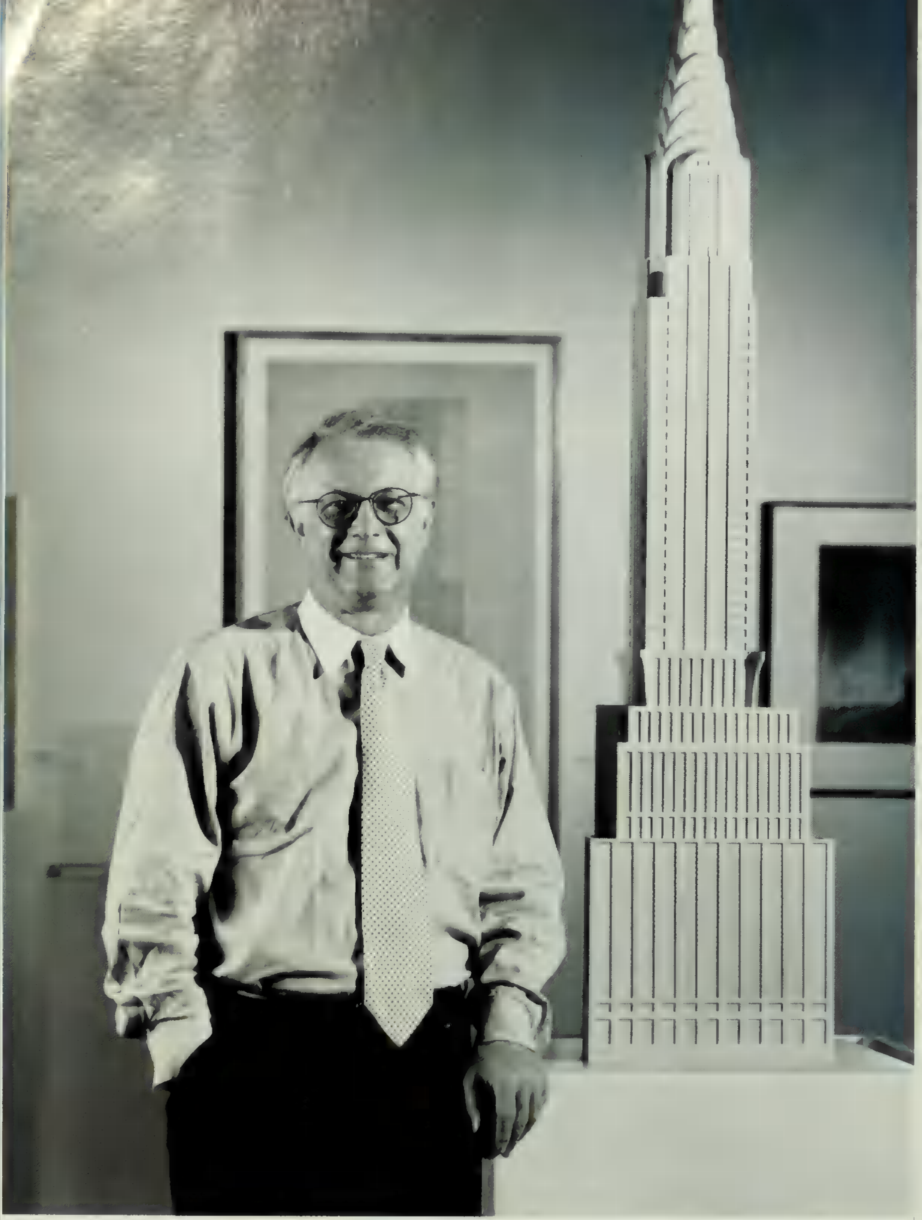
Urban Design & Infrastructure: Assistant or Associate Professor, depending on qualifications. The successful candidate will coordinate and teach a dedicated studio located in downtown Tucson dealing with urban design, infrastructure and architectural design projects. This will require effective interfacing and development of projects with the City of Tucson, county and state governmental agencies, public interest groups and professional associations. Additional teaching and research responsibilities will include curriculum development of required courses in theory and principles of urban design, practical case studies and advanced electives in support of graduate specialization. Requirements: Master of Architecture with specialization in urban design. Desirable qualifications: Demonstrated practical credentials and teaching experience in urban design.

Foundation Studios & Architectural Communication: Assistant Professor. The successful candidate will be dedicated primarily to coordination and teaching in the first year foundation studios intended to develop visual, haptic and cognitive representational logic and communication skills by means of freehand and technical drawing, descriptive geometry and manipulation/fabrication of material objects. Additional teaching and research responsibilities will include curriculum development of required and elective courses in the communications sequence of the curriculum. Periodic teaching of architectural design studios at all levels will be a real possibility. Requirements: Master of Architecture. Desirable qualifications: Teaching and professional experience.

In addition, all candidates for these positions must be able to articulate the ethical and philosophical basis of design, and to pursue interdisciplinary exchanges within the on-going evolution of contemporary architectural education. Candidates must also have a clear direction for their creative endeavors or other avenues for research. Individuals interested in international exchange and scholarship are particularly encouraged to apply.

Qualified applicants must submit a full curriculum vita, a letter of application including statements of pedagogical and research objectives, an abridged (maximum 20 pages) portfolio or sample of scholarly work and a list of three referees (with phone/fax numbers, mailing and e-mail addresses). Send materials to Professor Larry Medlin, Chair of the Search Committee, School of Architecture, CAPLA, The University of Arizona, P.O. Box 210075, Tucson, AZ 85721. Short-listed candidates will be asked to submit a portfolio of work. Review of applications will begin 1 December 2000, and continue until all the positions are filled.

The University of Arizona is an EEO/AA employer-M/W/D/V.



Richard Koshalek: Advocate for architecture and the arts

Interviewed by Elizabeth Harrison Kubany

The arts, and architecture in particular, have a great ally in Richard Koshalek. He began his term as president of the Art Center College of Design in Pasadena, Calif., less than one year ago, and already he is using architecture to change the perception of the school. He has hired Frank Gehry to design a new campus, while Hodgetts and Fung are already at work on a new student center. Before starting at the college, Koshalek was the director of MoCA in Los Angeles, where he worked with Gehry on the design of the Geffen Contemporary (formerly the Temporary Contemporary), commissioned Arata Isozaki to design the permanent building for MoCA, and curated numerous exhibitions on architecture.

Q: *What is your vision for Art Center College of Design?* As president, my role is to set the agenda for the future of the college and to anticipate what will be needed in terms of faculty, curriculum, and physical plant.

So what was your first task? When I first got to Art Center, I asked students what their primary concern was. They felt that communication was an issue. So we decided to build a student lounge, where information could be exchanged among the different disciplines at the college. We held a charrette with 100 students and hired Hodgetts and Fung to design the building. The students were actively involved. We wanted them to participate in solving a real-life creative problem because that is what they will be doing when they leave school.

You've moved very quickly on this. Why? The world is changing rapidly. We have to keep an eye to the future if we are to maintain our competitive edge.

Are you planning any other major capital projects? We have hired Frank Gehry either to design a new campus for us in downtown Los Angeles adjacent to the Disney Concert Hall or to rethink our existing campus in Pasadena and are now getting ready to approach the board with a decision on which site to build on.

Why Gehry? I felt very strongly that he could design a building that would inspire creative thinking.

Can a building do that? Architecture has that power—without a doubt. The impact of what he will do will change people's perception of this school and set a standard for high quality that will influence our students for years.

And I believe it is our responsibility to set this standard. If you are involved in a cultural institution you have a role to play in the community at large. You have to provide leadership and be involved in the city, how it changes and evolves. In 1988, when I was at MoCA, I organized an architectural design competition in collaboration with the Los Angeles Community Redevelopment Agency for 40 units of affordable housing which were recently constructed in Hollywood in conjunction with the *Blueprints for Modern Living* exhibition. As a museum, we were able to address one of the Los Angeles' major urban problems.

What is your long-term goal for Art Center? We want the campus to be at the center of the dialogue about what happens in the world of design and fine arts internationally—not only in terms of educating students for the future but also being an advocate in the larger world for what we believe in, which is the value of design. I am truly optimistic. ■

Photograph by Bob Seidemann

WWW *Find other interviews at* **Interviews** *on:* **www.architecturalrecord.com**

Who says you can have too much of a good thing?

A Viking range. Viking ventilation hood. Viking dishwasher. Viking refrigerator. Now you can give your clients Viking everything. From cooking to kitchen cleanup, the Viking full product line puts professional performance into every corner of the kitchen. And it gives you the freedom to create the perfect kitchen for every client. Whether the design calls for gas, dual fuel, or electric in a built-in or freestanding unit – you can get it all from Viking. And that's a great thing.

VIKING

Professional Performance
for the Home™

Viking Range Corporation ▪ (662) 455-1200 ▪ www.vikingrange.com

CIRCLE 103 ON INQUIRY CARD

Kroin

180 Fawcett Street
Cambridge, Massachusetts 02138

Telephone 800 OK KROIN
Facsimile 617 492-4001

Birds of a feather—
Kroin sanitary fixtures and
polished stainless—
[illegible] flock together.

Design: Prof. Arne Jacobsen, MAA
selected for the Design Collection, MoMA.

For information Circle 465

R458 #